ESTD 1964

S.V.M.V.V. Society's

S. V. M. ARTS, SCIENCE AND COMMERCE COLLEGE

ILKAL - 587125

Dist: Bagalkote Karnataka

ACCREDITED WITH 'A' LEVEL BY NAAC Under CGPA 3.04

(Affiliated to Rani Channamma University, Belagavi, Centre Code: 6218)

ANNUAL QUALITY ASSURANCE REPORT (AQAR)

CRITERION-II

2.2.1-The institution assesses the learning levels of the students and organization special Programmers for advanced learners

Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL BENGALURU

2022-23

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- B.A-Sociology
- B.Sc.-Physics
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- Chemistry
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- Sociology
- Physics
- Commerce

VIDYASANGAMA

RANI CHANNAMMA UNIVERSITY, BELAGAVI

Vidyasangama, N.H. 4, Belagavi- 591156. Karnataka State

B. A. SOCIOLOGY SYLLABUS

With Effect from

the Academic Year 2021- 2022

Web Site: www.rcub.ac.in

Email Id.: sociologydept.rcub@gmail.com

Phone Nos.: 0831- 2565228

FIFTH SEMESTER	
Compulsory Paper	
STUDY OFINDIAN SOCIETY- 5.1	
Unit- I	Introduction
Unit- II	Marriage and Family
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SOCIAL MOVEMENTS IN INDIA -6.3	
Unit- I	Introduction
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Unit- V	Environmental Movements

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Unit- I	Introduction to Urban Society in India
Unit- II	Urbanization in Modern India
Unit- III	Cities in India
Unit- IV	Urban Problems in India
Unit- V	Urban Planning and Development

B. A. Fifth Semester
Compulsory Paper- 5.1
STUDY OFINDIAN SOCIETY

Objective of the Paper:

→ To understand the diversities and unity in Indian Society
→ To know the major segments in society, the traditions, continuities and changes taking place in Indian society;
→ The sociological perspective on Indian society presented in this course will also enable students to gain a better understanding of their own situation and region

Unit- I Introduction **12 Hours**

1. Features of Indian Society
2. Unity in Diversity
3. Dharma and its types
4. Factors of Continuity and Change

Unit-II Marriage and Family **12 Hours**

1. Meaning, Definition of marriage and Family
2. Marriage among Hindus, Muslims, and Christians
3. Recent trends in Marriage
4. Types of Family: Joint Family, Nuclear family, matriarchal and patriarchal Family
5. Recent Trends in Indian Family

Unit III Caste System in India **12 Hours**

1. Meaning and Features of Caste system
2. Functions of Caste System
3. Role of caste in modern India- Merits and Demerits
4. Changing aspects of Caste, Causes for Change.

Unit IV Other Backward classes **12 Hours**

1. Meaning and Characteristics of OBC's
2. Backward class Movements
3. Constitutional Measures and Welfare Programmers of OBC's

Unit V Scheduled Casts and Scheduled Tribes **12 Hours**

1. Meaning and Nature of SC's and ST's
2. Problems and Challenges of SC's
3. Problems and Challenges of ST's
4. Constitutional Measures and Welfare Programms for SC's and ST's

References:

1. Ahuja ram (1993) : Indian social system, Rawat pub. Jaipur.
2. Ambedkhar B.R Annuhilation of Caste
3. Berreman, G.D. (1979): Caste and other Inequalities: Essays .
4. Beteille Andre (1992): Backward classes in contemporary India, New Delhi: OUP.
5. Bose, N.K (1967): Culture and Society in India.Bombay:Asia Publishing House.
6. Chaudhuri Buddhadeb (1991): Tribal Development in India. New Delhi: Inter India Publications.
7. Dube, S.C. (1977): Tribal Heritage of India. New Delhi:Vikas Publication.
8. Dube. S.c(1990) : indian society, nation book trust, new delhi. Inequality. Meerut: Folklore Institute.
9. Ghurye g.s (1969) : caste and race in india, popular prakashan, bombay.
10. Hasnain, N. (1983): Tribes in India. Harman Publications, New Delhi.
11. Indene Ronald (1990): Imaging India. Oxford: Brasil Blackward.
12. Karve, Irawati. (1961): Hindu Society: An Interpretation. Poona: Deccan College.
13. Kothari Rajani (Ed.) (1973) : Caste in Indian Politics
14. Mandelbaum (1970):Society in India Bombay. Popular Prakashan.
15. Mulugund, I.C. (2006):Readings in Indian Sociology.Shrusti Prakashan, Dharwad.
16. Satya Murthy T.V. (1996): Religion, Caste, Gender, and Culture Contemporary India. New Delhi: OUP.

B. A. Fifth Semester

Elective Paper- 5.2

RURAL DEVELOPMENT ININDIA

Objectives of the Paper:

→ To understand the nature of Rural Development in India.

→ To understand the changing nature of Land Tenure System and Land Reforms.

→ To understand the nature of Rural Development Programmes.

Unit- I Introduction — 12 Hours

1. Meaning and Nature of Rural Development
2. Significance of study of Rural Development
3. Features of rural community
4. Rural Problems: Indebtedness- rural poverty, rural unemployment rural migration - rural health and sanitation

Unit- II Rural Economic System — 12 Hours

1. Meaning and Forms of Land Tenure System
2. Rural Indebtedness: Causes and Effects
3. Green Revolution , White Revolution , Red Revolution, yellow Revolution, Blue Revolution: Objectives and Achievements
4. Formers Suicide

Unit- III Peasant movement In India — 12 Hours

1. Meaning and Nature of Peasant Movement
2. Bardoli Satyagraha, Telangana Movement and Naxabari Movement
3. Present Movement In Karnataka: Mahadayi Naragunada Bandaya, Kaveri , Kalasa Banduri
4. Effect of Peasant Movement

Unit- IV Panchayat Raj System and Rural Development — 12 Hours

1. Meaning and Objectives of Pancayat Raj
2. Role of Pacchayat Raj in Rural Development
3. Early attempts of Rural Development Srinikethan Yojane, Nilokheri Yojane and Firka Yojane
4. Role of Personnel in Rural Development-Village Level Workers (VLW), Grama Sevak(GS), Block Level Development Officers(BDO) and Distrivt Level Officers(CEO)

Unit- V Rural Development Programs **12 Hours**

1. Meaning of Definition of Rural Development
2. Agencies of Rural Development – Govt. and NGO's
3. Programs of Rural Development in India NREGP, Swacha Bhrat, Grama Sadak Yojana, SHG'S
4. Jal Nirmala Yojana, Shrishakti

References:

1) Aziz Sartaj (1975): Rural Development: Learning from China. London: MacMillan Press.
2) Bhattacharaya, Sub Nath (1983): Rural Development in India and Other Developing Countries. Calcutta: Metropolitan Book Co. Pvt. Ltd.
3) Brahmananda, P.R., B.K. Narayana and A. Kalappa (Ed.1987): Dimensions of Rural Development. Himalaya Publishing House, Mumbai.
4) Chambers Robert (1984): Rural Development: Putting the Past First. Chennai: Orient Longman Ltd.
5) Chaturvedi, T.N. (Ed. 1986): Rural Development: Some Themes and Dimensions. New Delhi: Indian Institute of Public Administration.
6) Deb, K. (1986): Rural Development in India- Since Independence. Sterling, New Delhi.
7) Deb Kalipada (1988): Rural Development in India- Since Independence. Sterling New Delhi.
8) Desai, A.R. (Ed.) (2004): Rural Sociology in India. Popular Prakashan, Bombay.
9) Harris John(Ed.) (1986): Rural Development: Theories of Peasant Economy and Agrarian Change, ELBS, London.
10) Katar Singh (1986): Rural Development- Principles, Policies and Management. Sage Publishers, New Delhi.
11) Maheshwari, S.R. (1995): Rural Development in India- A Public Policy Approach (2nd Ed.), Sage Publications Ltd. New Delhi.
12) Mathur, B.L. (2006): Rural Development and Co- operation, RBSA Publishers, New Delhi.
13) Mulgund, I.C.: Readings of Indian Sociology. Shrusti Prakashna, Dharwad.
14) Satya Sundaram (1999): Rural Development. Mumbai: Himalaya Publishing House.
15) Sharma, K. L. (2007): Indian Social Structure and Change. Rawat Publications, New Delhi.

B. A. Fifth Semester

Elective Paper- 5.3

WOMEN STUDIES IN INDIA

Objectives of the Paper:

→ Make the students to know about the Nature and Scope of Women Studies.

→ To understand the concepts of Gender Theories.

→ To understand the Problems of Women and Empowerment.

Unit- I Introduction **12 Hours**

1. Emergence of Women Studies in India
2. Meaning, Nature and Scope
3. Importance of Women Studies

Unit- II Basic Concepts **12 Hours**

1. Sex and Gender
2. Feminism
3. Gender Theories (Liberal Feminism, Radical Feminism)

Unit- III Status of Women in India **12 Hours**

1. During Ancient India
2. During Medieval India
3. During Modern India

Unit- IV Problems of Women **12 Hours**

1. Inequality -Social, Economic and Political
2. Crimes and Atrocities against women
3. Problems of Dowry

Unit- V Empowerment of Women in India **12 Hours**

1. Strategies of Empowerment
2. Role of Govt. in the Development of women, Programmes and Legislations
3. Women welfare Measures undertaken by Govt. of Karnataka

References:

1) Altekar A.S. (1983): The Position of Women in Hindu Civilisation. Delhi: Motilal Banarasidass, 2nd Ed., 5th Reprint.
2) Chanana, Karuna (1985): Socialization, Women, and Education: Explorations in Gender Identity. New Delhi: Orient Longman.
3) Desai Neera and M. Krishnaraj (1987): Women and Society in India. Delhi: Ajanta.
4) Forbes, G. (1995): Women in Modern Indian Society. New Delhi: Sage Publication.
5) Ghandially, Rehana (ed) (1988): Women in Indian Society. New Delhi: Sage Publication.
6) Maccoby, Eleaner and Carol Jacklin (1975): The Psychology of Sex Differences. Stanford: Stanford University.
7) McCormack, C., and M. Starathern (1980): Nature, Culture, and Gender. Cambridge: Cambridge University.
8) Sharmila Rage (2004): Sociology of Gender, Sage: New Delhi
9) Sharma Ursula (1983) : Women, Work and property in north west India London: Tavistock
10) Shulamitz, Reinharz and Lynn Davidmann (1991): Feminist Research Methods. New York: Oxford University.
11) Tong, RoseMarie, (1989): Feminist Thought : A Comprehens ive Introduction, Colarodo: West view Press
12) Whelham, Imelda (1997): Modern Feminist Thought: Edinburgh University Press.

B. A. Fifth Semester
Elective Paper- 5.4
SOCIAL DEMOGRAPHY

Objectives of the Paper:

→ To understand about the Nature and Scope of Demographic Studies.
→ To know about the Changing Trends of Indian Population.
→ To know about the Family Welfare Programmes and Schemes in India.

Unit- I Introduction **12 Hours**

1. Origin and Development of Demography
2. Meaning, Nature and Scope
3. Importance of Social Demography

Unit- II Components of Population Growth **12 Hours**

1. Fertility
2. Mortality
3. Migration

Unit- III Theories of Population Growth **12 Hours**

1. Malthusian Theory
2. Optimum theory
3. Theory of Demographic Transition

Unit- IV Population Growth **12 Hours**

1. Trends of World Population Growth
2. Trends and Patterns of Population Growth in India
3. Causes and Consequence of Population Growth in India

Unit- V Population Control **12 Hours**

1. History of Family Planning Programmes
2. Family Welfare Programmes
3. Population Policy- 2000

References:

1) Bose Asish (1991): Demographic Diversity of India. Delhi: B.R. Publishing Corporation.
2) Census of India Reports- 2001.
3) Chandrashekar, S. (Ed.) (1974): Infant Mortality, Population Growth and Family Planning in India. London: George Allen & Unwin Ltd.
4) Finkle, Jason Land Alison Mcintosh (Ed.) (1994): The New Policies of Population. New York: The Population Council.
5) Hatcher Robert (1983): An Introduction to Social Demography. Delhi: Vikas Publishing House.
6) Rajendra Sharma (1997): Demography and Population Problems. New Delhi: Atlantic Publishers.
7) Shrivastava O.S. (1994): Demography and Population Studies. New Delhi: Vikas Publishing House.

B. A. Sixth Semester

Compulsory Paper- 6.1

SOCIAL PROBLEMS IN INDIA

Objectives of the Paper:

→ To understand about the Nature of Social Problems.

→ To understand the Nature & Causes of Changing Crimes in India.

→ To understand the Nature of Vulnerable Problems of Life.

Unit- I Introduction **12 Hours**

1. Meaning, Definition and Nature of Social Problems
2. Causes and Consequences of Social Problems
3. Meaning of social organization and Disorganization
4. Characteristics of Social Disorganization

Unit- II Social Disorganization Issues and Problems **12 Hours**

1. Crime and Delinquency- Meaning Causes and Consequences of crime and Delinquency
2. Types of crime
3. Changing Aspects of Crime and Criminals: White Color Crime, Criminalization of politics and Communalism
4. Measures to Control Crime and Delinquency

Unit- III Alcoholism and Drug Addiction **12 Hours**

1. Meaning, Nature, and Types
2. Causes and Consequences
3. Youth and Drug Addictives
4. Measures to Control

Unit- IV Terrorism and Corruption **12 Hours**

1. Meaning and Features of Terrorism
2. Types of Terrarium and Corruption
3. Causes and Consequences of Terrorism and Corruption
4. Measures to Control Terrorism

Unit- V Problems of Women, Youths, Children and Aged **12 Hours**

1. Domestic Violence, Dowry, Divorce, and Sexual Abuse
2. Youth Unrest
3. Human Trafficking, Child abuse and Child labor
4. Problems of Aged-

References:

1) Ahuja Ram (1995): Social Problems in India. Rawat Publications, Jaipur.
2) Davis James (1970): Social Problems Enduring Major Issues and Change, New York: Free Press.
3) Elliot and Merril (1950): Social Disorganization. New York: Harper and Brothers.
4) Gill SS (1998): The Pathology of Corruption. New Delhi: Harper Collin Publishers.
5) Karavala Perin C (1939): A Study in Indian Crime. Bombay Popular Book Depot.
6) Madan G.R. (1994): Indian Social Problems. New Delhi Allied Publishers.
7) Memoria C.B. (1999): Social Problems and Social Disorganization. New Delhi: Kitab Mahal.
8) Ministary of Home Affairs (1998): Crime in India. New Delhi: Govt. of India.
9) Medon Robert K and Robert Nisbert (1976): Contemporary Social Problems. New York: Harcourt Brace, Jovavich Ink.
10) Reid Suettus (1976): Crime and Criminology. Illinois: Deyden Press.
11) Sutherland Edwin H and Donald R Cressey (1968): Principles of Criminology. Bombay Times of India Press.
12) Thomas G (1994): AIDS in India Myth & Reality. Jaipur: Rawat Publications.

B. A. Sixth Semester

Elective Paper- 6.2

RESEARCH METHODOLOGY

Objectives of the Paper:

→ To understand the Importance of Social Research in Social Science

→ To know about the Research Design.

→ Make the students to understand about the Analysis and Report Writing.

Unit- I Introduction

1. Meaning and Importance of Social Research
2. Science- Pure and Applied
3. Types and Methods of Social Research: Pure and Applied, Survey, and Case Study

Unit- II Tools of Social Research

1. Concepts
2. Theory
3. Hypotheses
4. Facts

Unit- III Research Design

1. Meaning and Importance
2. Types of Research Design
3. Sampling - Importance and Types

Unit- IV Methods of Data Collection

1. Data- Meaning and Sources of Primary and Secondary Data
2. Primary Data Collection, Observation, Interview and Questionnaire
3. Secondary Data

Unit- V Analysis and Report Writing

1. Editing, Coding and Tabulation
2. Analysis and Interpretation
3. Report Writing

References:

1) Ram Ahuja (2001): Research Methods, Rawat Pub. Jaipur.
2) Baily Kenneth (1998): Methods of Social Research. John Wiley & Sons, New York
3) Bose Pradi Kumar (1995): Research Methodolgy, New Delhi: ICSSR.
4) David Dooley (1997): Social Research Methods, Prentice Hall, New Delhi.
5) Goode William J & Hatt Paul K (1952): Methods of Social Research. McGraw Hill, New Delhi.
6) Hughes John (1987): The philosophy of social research. London. Longman
7) Jayram, N. (1989): Sociology Method and theory. Madras: MacMillan
8) Kothari, C. R. (1989): Research Methodology – Methods and techniques. Bangalore :Wiley Eastern
9) Moser, C.A. & Kalton, G. (1971): Survey Methods in Social Investigations, ELBS & Heinemann, London
10) Popper, K. (1999): The Logic of Scientific Discovery London: Routledge.
11) Srinivas, M.N. and A.M. Shah (1979): Field worker and the field. New Delhi: Oxford
12) Young P.V. (2001): Scientific Social Surveys and Research, New Delhi. Prentice Hall.

B. A. Sixth Semester
Elective Paper- 6.2
SOCIAL MOVEMENTS IN INDIA

Objectives of the Paper:

→ To understand the Significance of Sociology in understanding the Ideology of Social Movements.

→ To know the Role of various SocialReformers In Social Movements.

→ To understand about the Emergence of Environmental Movements and their Significance.

Unit- I Introduction

1. Meaning and Nature of Social Movements
2. Scope and Significance of Sociology of Social Movements
3. Types of Social Movements

Unit- II Reform Movements

1. Veershaiva Movements
2. Arya Samaj and Brahma Samaj
3. Ramkrishna Mission

Unit- III Dalit and Backward Class Movements

1. Emergence of Dalit Movement in India
2. Role of Jotibha Phule and Babasaheb Ambedkar
3. Backward Class Movements in India

Unit- IV Peasant Movements

1. Characteristics and Trends
2. Peasant Movements in India
3. Peasant Movements in Karnataka

Unit- V Environmental Movements

1. Emergence of Environmental Movements and their Importance
2. Chipko Movement and Appiko Chaluvali
3. Narmada Bachav Andolan
4. Save Western Ghats

References:

1) Banks J.A. (1972): The Sociology of Social Movements. London: MacMillan.
2) Bruce Cameron (1986): Modern Social Movements, Random House, New York.
3) Desai A.R. (Ed) (1979): Peasant Struggles in India. Bombay: Oxford University Press.
4) Dhanagare D.N. (1983): Peasant Movements in Indian 1920 - 1950. Delhi: Oxford University Press.
5) Gouldner A.W (1950): Studies in Leadership. New York: Harper & Brothers.
6) Oomen T.K. (1990): Protest & Change: Studies in Social Movements. Delhi: Sage.
7) Rao, M.S.A. (1979): Social Movements and social transformation (Delhi: MacMillan)
8) Rudolf (1995): Social Movements, New York: ACC.
9) Selliot Eleanor (1995): From Untouchable to Dalit: Essays on the Ambedkar Movement New Delhi: Manohar.
10) Shah, Ghanshyam (1990): Social Movements in India- A Review of the Literature Delhi: Sage.
11) Singh KS. (1982): Tribal Movements in India. New Delhi: Manohar.

B. A. Sixth Semester
Elective Paper- 6.4
URBAN SOCIETY IN INDIA

Objective of the Paper

- → To understand about the Evolution of Cities and Urban Communities.
- → To make the students to make aware of Urban Problems in India
- → To understand Urban Planning and Urban Development

Unit- I Introduction to Urban Society in India **12 Hours**

1. Meaning and Characteristics of Urban Society
2. Types of Cities and Urban Communities
3. Urban Development in Ancient and Medieval Periods
4. Significance of study of urban Life

Unit- II Urbanization in Modern India **12 Hours**

1. Meaning and nature of Urbanization
2. Rural-Urban Migration
3. Factors Responsible for rapid Urbanization
4. Consequences for Over Urbanization and its Measures

Unit- III Cities in India **12 Hours**

1. History and Growth of Cities in India
2. Metropolitan and Mega Cities Meaning and Characteristics
3. Growth of Metropolitan and Mega Cities

Unit- IV Urban Problems in India **12 Hours**

1. Slums and Urban Crime
2. Problems of Housing and Sanitization
3. Environmental Problems: Air Pollution, Water Pollution, Soil Pollution, Sound Pollution and Problem of Solid waste
4. Effects and Remedies for Environmental Problem

Unit- V Urban Planning and Development **12 Hours**

1. Urban Development s and Its Objectives
2. Urban Policy and Urban Development Programmes
3. Urban Government and its Role
4. Problems of Urban Management

References:

1) Alfred D'Souza (1978): The Indian City: Poverty, Ecology and Urban Development, Manohar, New Delhi.
2) Bose Ashis (1901-2001): Urbanization in India
3) Raj Bala (1986): Trends in Urbanization, Rawat Publications Jaipur
4) Ram Nath Sharma: Urban Sociology. A Rajhans Publications Meerut.
5) Rao MSA (1974): Urban Sociology In India. Orient Longman, New Delhi
6) Siddarth, K. & Mukherjee (2005): Cities, Urbanization and Urban System, Kisalaya Publications, Delhi.
7) Vibooti Shukla (1988): Urban Development and Regional Policy- An Economic Analysis. Himalaya Publishing House, Delhi.
8) Ramchandran N (1989): Urbanization and Urban Systems In India. Oxford University Press, New Delhi.

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

PHYSICS

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: PHYSICS

B.Sc., PHYSICS Syllabus as per CBCS
(With effect from the academic year 2020-21 onwards)

Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1 DSC	PHYDSCT1.1	Mechanics and Theory of Relativity	4	20	80	100	3
		PHYDSCP1.1	Practical I	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1 DSC	PHYDSCT2.1	Electricity & Magnetism	4	20	80	100	3
		PHYDSC P2.1	Practical II	3	10	40	50	1
		Total : Hours / Credits		7			150	4

B.Sc., PHYSICS Syllabus as per CBCS
(With effect from the academic year 2021-22 onwards)

Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	PHYDSCT3.1	Thermodynamics-I, Sound and Waves	4	20	80	100	3
		PHYDSCP3.1	Practical III	3	10	40	50	1
	Part – 2 SEC	PHYSECT3.2	Weather Forecasting	2	10	40	50	2
		Total : Hours / Credits		9			200	6
IV	Part – 1 DSC	PHYDSCT4.1	Thermodynamics-II, Statistical Mechanics and Optics	4	20	80	100	3
		PHYDSCP4.1	Practical IV	3	10	40	50	1
	Part – 2 SEC	PHYSECT4.2	Renewable Energy sources and Energy Harvesting	2	10	40	50	2
		Total : Hours / Credits		9			200	6

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: PHYSICS

B.Sc., PHYSICS Syllabus as per CBCS
(With effect from the academic year 2022-23 onwards)

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	PHYDSET5.1	Mathematical Physics – I, Nuclear and Particle Physics and Classical Mechanics	4	20	80	100	3
		PHYDSEP5.1	Practical V	3	10	40	50	1
		PHYDSET5.2A **(Elective I)**	Quantum Mechanics – I, Electronics and Optoelectronics	4	20	80	100	3
		PHYDSEP5.2A **(Elective I)**	Practical VIA	3	10	40	50	1
		PHYDSET5.2B **(Elective II)**	Modern Physics - I	4	20	80	100	3
		PHYDSEP5.2B **(Elective II)**	Practical VIB	3	10	40	50	1
	Part – 2 SEC	PHYSECT5.3	Basic Instrumentation Skills	2	10	40	50	2
		Total : Hours / Credits		16			350	10
Note: Students have to choose either Elective-I or Elective-II								
VI	Part – 1 DSE	PHYDSET6.1	Mathematical Physics – II, Atomic, Molecular and Optical Physics and Atmospheric Physics.	4	20	80	100	3
		PHYDSEP6.1	Practical VII	3	10	40	50	1
		PHYDSET6.2A **(Elective III)**	Quantum Mechanics – II, Condensed Matter Physics and Nanomaterials	4	20	80	100	3
		PHYDSEP6.2A **(Elective III)**	Practical VIIIA	3	10	40	50	1
		PHYDSET6.2B **(Elective IV)**	Modern Physics - II	4	20	80	100	3
		PHYDSEP6.2B **(Elective IV)**	Practical VIIIB	3	10	40	50	1
	Part – 2 SEC	PHYSECT6.3	Electrical Circuits And Network Skills	2	10	40	50	2
		Total : Hours / Credits		16			350	10
Note: Students have to choose either Elective-III or Elective-IV								

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities, AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course, DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)

Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

Scheme of Evaluation for Practical Examination

S.No	Particulars	Marks Allotted
1.	Basic formula with description. nature of graph if any & indication of unit	04
2.	Tracing of schematic ray diagram/Circuit diagram with description	04
3.	Tabulation	04
4.	Experimental skill & connection	04
5.	Record of observation and performance of experiment	08
6.	Calculation including drawing graph	06
7.	Accuracy of result with unit	02
8.	Journal assessment	04
9.	Oral performance	04
	Total	**40**

First Semester B.Sc. (Physics)

Paper Code: PHYDSCT1.1 **Paper Title:** Mechanics and Theory of Relativity
Teaching Hours: 4 Hrs / Week **Marks:** Th-80+IA-20
Total Hours: 60 **Credits : 3**

Unit I

Conservation Laws

Law of conservation of linear momentum (statement). Centre of mass & Expressions for position vector, velocity, acceleration & force of centre of mass. Distinction between laboratory frame of reference and centre of mass frame of reference. Concept of elastic and inelastic collisions. Derivation of final velocities in case of elastic collision in (i) laboratory frame of reference (ii) centre of mass frame of reference. Derivation of final velocities in case of inelastic collision in (i) laboratory frame of reference (ii) centre of mass frame of reference. Conservation of linear momentum in case of variable mass. Principle of rocket and derivation for equation of motion for single stage rocket. Necessity of multistage rocket (Qualitative). Basics of angular momentum and torque, relation between angular momentum & torque (qualitative). Law of conservation of angular momentum with examples. Concept of work & power in terms of line integral. Law of conservation of energy. Work energy Principle. **15 Hours**

Unit II

Gravitation

Newton's law of Gravitation (statement). Expressions for escape velocity and orbital velocity. Kepler's laws of planetary motion. Derivation for Kepler's 2^{nd} and 3^{rd} law. Concept of Satellite, derivation for binding energy of satellite. Artificial Satellite: Geostationary satellite and polar orbit satellite with different types of orbits (qualitative). Concept of weightlessness. Basic ideas of G.P.S and NAVIC.

Rigid Body Dynamics

Moment of Inertia. Radius of Gyration. Statements of theorem of parallel axis and theorem of perpendicular axis. Derivation of expressions for moment of inertia for (i) rectangular lamina (ii) thin uniform rod and (iii) circular disc. Theory of compound pendulum. Theory of flywheel and its applications. **15 Hours**

Unit III

Elasticity

Statement of Hook's law. Behavior of wire under stress. Modulus of elasticity. Derivation of expression for relations between elastic constants. Derivation of work done per unit volume in a deforming body. Derivation of twisting couple of cylindrical rod or wire. Torsion pendulum. Derivation for time period of torsion pendulum. Derivation of bending moments. Theory of cantilever. Derivation of Young's modulus by bending of beam supported at its ends and loaded at middle.

15 Hours

Unit IV

Theory of Relativity

Inertial and non inertial frames of references. Newtonian principle of relativity. Galilean transformation equations. Michelson Morley experiment and negative results. Postulates of special theory of relativity. Lorentz transformation equations. Length contraction. Time dilation. Addition of velocities. Derivation of variation of mass with velocities. Derivation of Einstein's mass-energy relation.

15 Hours

REFERENCE BOOKS:

1) Fundamentals of Physics- R Resnik, D. Halliday and Walker, Wiley 6ed(**2001**)
2) Physics-Classical and Modern, FJ Keller, E Gettys and J J Skove, McGraw Hill Second Revised Edition(**1993**)
3) Classical Mechanics-K N Sreenivasa Rao, Universities Press- Orient Longman (**2003** ed)
4) Concepts of Physics Vol (1)-H C Verma, Bharathi Bhavan Publishers, **2004** Edition
5) University Physics- F W Sears, M W Zemansky & H D Young, Pearson Education First ed.(**2014**)
6) Mechanics- J C Upadhaya, Himalaya (**2014** ed)
7) Mechanics- Berkeley Physics Course Vol(1)- SI units Charles Kittel etal, McGrawHill Education (India) 2e (2011)
8) Elements of Properties of matter – D S Mathur, S.chand(GL) 7 Co Ltd,Dehi 1ed(**2010**)
9) Properties of Matter - Brijlal & Subramanyam, S Chand & Co, (**2002**)
10) Newtonian Mechanics- A P French, Nelson & Sons UK, (**1971**)
11) Mechanics & Thermodynamics, G Basavaraju & Dipan Ghosh, McGrawHill Education (India) 1ed (**1985**)
12) A treatise on general properties of matter, Sengupta and Chatterjee, New Central Book Agency Pvt Ltd, Calcutta (7th Revised edition -**2010**)
13) Waves & Oscillations, P K Mittal & Jai Dev Anand, Hari Anand Publications Pvt Ltd (2011ed)
14) Perspectives of Modern Physics, Arthur Beiser, Mc- Graw Hill.
15) Introduction to Special Theory of Relativity, Rober Resnick, John Wiley and Sons First Edition
16) Special Relativity, A P French, MIT, w.w. Nortan and Company First Ed (**1968**)
17) Concepts of Modern physics McGraw hill Education(India) Pvt Ltd;6th ed (**2000**)
18) Principles of Modern Physics, A.P. French, John Wiley, London (1958).
19) Modern Physics - S.N. Ghoshal, Part 1 and 2 S. Chand and Company (1996).
20) Advanced analytical dynamics : Dynamic of rigid body, Utpal Chatterjee, Academic Publishers, first edition,(2016).
21) Theory of mechanics, kinematics and dymanics : V. R. Gupta, I K International publishing house Pvt. Ltd, (2013).
22) Dynamics of Rigid Body : A. K. Sharma, Discovery Publishing Group,(2007).
23) Properties of matter : R. Murugeshan, S Chand & Co Ltd Publication.
24) Theory of Elasticity : P. N. Chandramouli, Yes Dee publishers(2017).
25) An introduction to the theory of elasticity : R. J. Atkin & N. Fox, Dover Publications Inc.(2005).
26) Theory of elasticity : Dr. Sadhu Singh, Khanna publishers, (1978)
27) B.Sc Physics - C. L. Arora
28) Mechanics, S P Taneja, R Chand & Co New Delhi

Practical

Paper Code: PHYDSCP1.1 **Paper Title:** Practical I

Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10

Credits : 1

1. Error analysis, data analysis technique and graphing technique to be learnt (mandatory).
2. Moment of Inertia of Fly wheel
3. Young's modulus (Y) by Cantilever- Load Vs depression graph.
4. Modulus of rigidity by Maxwell needle method.
5. Young's modulus (Y) by uniform bending- Load Vs depression graph.
6. Bar pendulum- determination of g
7. Modulus of rigidity by Torsional pendulum
8. Spring Constant by Flat spiral Spring.
9. Verification of parallel axis theorem of Moment of Inertia.
10. Verification of perpendicular axis theorem of Moment of Inertia.
11. Verification of Hook's law.
12. σ by stretching method.
13. Searle's double bar method to determine Young's Modulus.
14. Torsional pendulum- to determine C and rigidity modulus.
15. Coupled oscillator- string coupled with change of tension.
16. To determine rigidity modulus by dynamic method.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

References:

1. B Saraf etc. - Physics through experiments, Vikas Publications (2013)
2. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes. Vikas Publications First ed.(1985)
3. Advanced Practical Physics for Students – Worsnop & Flint. Methuen & Co. London.
4. An Advanced Course in Practical Physics ; D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (2002)
5. BSC. Practical Physics. CL Arora. SChand & Co. New Delhi, (2007) Revised Edition.
6. B.Sc. Practical Physics. Geeta Sanon R. Chand & Co. New Delhi

Second Semester B.Sc. (Physics)

Paper Code: PHYDSCT2.1 **Paper Title:** Electricity & Magnetism
Teaching Hours: 4 Hrs / Week **Marks:** Th-80+IA-20
Total hours:60 **Credits :3**

Unit I

Vector Analysis

Scalar and Vector Products. Gradient of scalar and its physical significance. Divergence of vector and its physical significance. Curl of vector and its physical significance. Vector integration; line, surface & volume integrals of a vector field. Gauss Divergence theorem & Stokes theorem (statement).

Maxwell's Electromagnetic Theory

Derivation of Maxwell's equations in differential form. Mention of Maxwell's equations in integral form and their physical significances. Derivation for general plane wave equation in free space. Transverse nature of radiation. Derivation of Poynting's theorem.

15 Hours

Unit II

DC Circuit Analysis

Voltage and current sources. Kirchoff's current and voltage laws. Derivation of Thevenin's Theorem. Derivation of Norton's Theorem. Derivation of Superposition Theorem. Derivation of Maximum Transfer Theorem.

Transient Circuits

Theory of growth and decay of current in RL circuit. Theory of charging and discharging of capacitor in RC circuit. Time constants of RL and RC circuits. Measurement of high resistance by leakage method.

15 Hours

Unit III

Magnetostatics

Statement of Biot Savart's law. Mention of expressions for Magnetic field at a point (1) due to a straight conductor carrying current (ii) along the axis of the circular coil carrying current (iii) along the axis of solenoid. Principle, construction and theory of Helmoltz Galvanometer.

Magnetic Properties

Magnetic Intensity, Magnetic Induction, Magnetic potential. Derivation of Magnetic intensity and magnetic potential due to dipole (magnet). Permeability and magnetic susceptibility. Distinction between dia, para, and ferromagnetic materials. Ampere Circuital Law (statement).

Electromagnetic Induction

Faraday's law of electromagnetic induction. Lenz's law. Self and mutual inductance.

Alternating Current

Definitions of average, peak and rms values of AC. AC circuits containing LR, CR and their responses (using j operator). Expressions for impedance, current & phase angle in series, LCR circuit using j operator. Expressions for admittance and condition for resonance in parallel, LCR circuit using j operator. Concept of Series resonance & parallel resonance (sharpness, half power frequency, quality factor, voltage magnification). Comparison between Series resonance & parallel resonance. De Sauty's Bridge.

15 Hours

Unit IV

Electrical Instrument

Ballistic Galvanometer: Theory of Ballistic Galvanometer (Derivation for current and Charge). Constants of Ballistic Galvanometer and their relationship. Condition for moving coil galvanometer to be ballistic. Determination of self inductance (L) by Rayleigh's method. CRO block diagram. Use of CRO in the measurement of Voltage, Frequency and Phase.

Dielectrics

Types of dielectric (polar and non polar molecules). Electric dipole moment (p), electric polarization (P). Gauss law in dielectrics. Derivation for Relation between D, E and P. Derivation for relation between dielectric constant and electric susceptibility. Boundary conditions for E & D.

15 Hours

REFERENCE BOOKS :

1) Electricity and magnetism by Brij Lal and N Subrahmanyam, Rathan Prakashan Mandir, Nineteenth Edition, 1993.
2) Principles of Electronics by V K Mehta and Rohit Mehta, S Chand & Company, Eleventh Edition, **2008.**
3) Fundamentals of Magnetism & Electricity : D. N. Vasudeva, S Chand Publication, (2011).
4) Fundamentals of Electricity and Magnetism – Basudev Ghosh (Books & Allied New Central Book Agency, Calcutta, 2009).
5) Electricity & Magnetism : B. S. Agarwal, Kedarnath Ramnath Publication(2017).
6) Electricity & Magnetism : A. N. Matveev, Mir Publishers Moscow,(1987).
7) Electricity and Magnetism with Electronics : Dr. K.K.Tewari, S Chand Publications(1995).
8) Fundamentals of electric circuit theory : Dr. D. Chattopashyay & Dr. P. C. Rakshit, S. Chand Publications, 7th Rev. Edn. (2006).
9) Electricity and Magnetism : John Yarwood, University Tutorial Press, (1973).
10) Feynman Lecture series, Vol1, R P Feynmman et al, Narosa Publishing House, New Delhi
11) Electricity & Magnetism, N S Khare & S S Srivastava, AtmeRam & Sons, New Delhi.
12) Electricity & Magnetism, D L Sehgal, K L Chopra, N K Sehgal, S Chand & Co, Sixth Edition, (**1988**).
13) Electricity & Electronics, D C Tayal, Himalaya Publishing House, Sixth Edition(**1988**).
14) Basic Electronics & Linear Circuits, N N Bhargava, D C Kulshresthe & SC Gupta, TMH Publishing Company Limited, 28th Reprint,(**1999**)
15) Fundamentals of Physics by Halliday, Resnick and Walker, Asian Books Private Limited, New Delhi, 5th Edition, (**1994**).
16) Introduction to Electrodynamics by D J Griffiths Pearson Education (**2015**).

17) Classical Electrodynamics : John David Jackson, John Wiley & Sons,(2007).
18) Electromagnetism by B B Laud 2ed.
19) An Introduction to vector analysis : B. Hague, Springer Science & Bussiness Media, (2012).
20) Electrical Networks, Theraja 3rd revised edition
21) Circuit Theory (Analysis & Synthesis) : A. Chankrabarti, Dhanpat Rai Publications,(1951).
22) Electricity and Magnetism, S P Taneja, R Chand & Co. New Delhi.
23) Introduction to Electromagnetic Theory, S P Taneja, R Chand & Co. New Delhi.

Practical

Paper Code: PHYDSCP2.1 **Paper Title:** Practical II

Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10

Credits : 1

1. Thevenin's & Norton's theorem (Ladder Network)
2. Thevenin's & Norton's theorem (Whestone Bridge)
3. High resistance by leakage method
4. Time constant of RC circuit by charging and discharging method.
5. Calibration of Ammeter using Helmoltz Galvenometer
6. Constants of Ballistic Galvanometer
7. LCR series and parallel resonance circuit
8. De Sauty's AC bridge
9. Self Inductance by Rayleigh's method
10. Use of CRO to find voltage, frequency and phase.
11. L & C by Equal Voltage Method
12. Black Box- Identify & Measure R, L & C
13. Anderson's Bridge to determine the self inductance of the coil (L).
14. Verification of Superposition Theorem
15. Verification of maximum Power Transfer Theorem

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

References:

1. Physics through experiments. B Saraf etc,- Vikas Publications (**2013**)
2. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vikas Publications First ed (**1985**)
3. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London.
4. An Advanced Course in Practical Physics : D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (**2002**)
5. BSC, Practical Physics, CL Arora, SChand & Co, New Delhi, (**2007**) Revised Edition.
6. B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Third Semester B.Sc. (Physics)

Paper Code: PHYDSCT3.1 **Paper Title:** Electricity, Thermodynamics-I, Sound and Waves
Teaching Hours: 4 Hrs / Week **Marks:** Th-80+IA-20
Total hours:60 **Credits :3**

Unit I

Kinetic Theory of Gases

Postulates of kinetic theory of gases. Derivations of Maxwell's law of distribution of velocities (assuming constants a and b). Derivations of average, r.m.s and most probable velocity. Mean free path. Derivation of Clausius expression of mean free path.

Transport Phenomena

Concept of viscosity (η). Derivation of expression for the thermal conductivity (K).Relation between η & K. Derivation of the expression for the coefficient of diffusion (D).

Black Body Radiation

Derivation of Stefan's law. Energy distribution in the black body spectrum. Derivation of Plank's law and deduction of Wien's displacement law and Rayleigh Jean's law .

15 Hours

Unit II

Thermodynamics

Zeroth law of thermodynamics. First law of thermodynamics and its application to various processes viz cyclic , adiabatic, isothermal , isochoric and isobaric processes. Second law of thermodynamics and entropy. Carnot's cycle. Working of Otto and Diesel engines with expressions for efficiency. Change of entropy in reversible and irreversible process. Entropy- Temperature diagram. Third law of thermodynamics. Derivation for Maxwell's thermodynamic relations. Clausius-Clapeyron's equation.

15 Hours

Unit III

Fluids

Surface Tension. Surface temperature and surface energy. Excess pressure on curved liquid surfaces and special cases in liquid drop, cylindrical surface and soap bubble. Variation of surface tension with temperature (qualitative). Determination of surface tension by Jaeger's method. Viscosity. Rate of flow of fluid. Velocity gradient. Coefficient of viscosity. Derivation of Poiseuille's formula (for liquid). Determination of coefficient of viscosity by Stokes method. Variation of viscosity with temperature and pressure.

Low Temperature and Low Pressure Physics

Joule Thomson effect. Porous plug experiment. Theory of Porous plug experiment. Exhaust Pump and its characteristics (with deduction for speed of pump). Theory, construction and working of Diffusion pump. Theory, construction and working of Ionization Gauge.

15 Hours

Unit IV

Waves

Composition of two co-linear oscillations having (i) equal frequencies (ii) Different frequencies (analytical method). Concept of beats. Composition of two perpendicular oscillations having (i) equal frequencies (ii) Different frequencies (analytical method). Lissajous figures with equal and unequal frequencies.

Sound

Simple harmonic motion. Analytical treatment of forced vibration and resonance. Theory of Helmoltz resonator. Intensity and loudness of sound-decibels. Intensity level- musical note and scale. Acoustics of building. Reverberation and time of reverberation- absorption coefficient. Derivation of Sabine's formula. Measurement of reverberation time. Acoustic aspects of hall and auditorium. **15 Hours**

RFERENCE BOOKS:

1) Heat and Thermodynamics- M M Zemansky, McGrawHill Education (India) 8ed (**2011**).
2) Heat & Thermodynamics, M W Zemansky & RHDittman, McGraw Hill Book company, Inc.US Seventh Revised edition(**1997**).
3) Heat and Thermodynamics- Brij Lal and N Subramanyam, S.Chand & Co, New Delhi -1985.
4) Heat and Thermodynamics – D S Mathur, SChand & Co, New Delhi, 5th Edition(2004).
5) Heat, Thermodynamics & Stastical Mechanics, BrijLal & Subramanyam, S. Chand & Company,Delhi, (**2008** ed).
6) Thermodynamics & Statistical Physics, Sharma & Sarkar, Himalaya Publishing House, Third Edition(1991).
7) Thermodynamics, Kinetic theory & Statistical Thermodynamics, F W Sears & G L Salinger, Narosa Publishing House (Third Edition **1998**).
8) Fundamentals of Classical Thermodynamics, Gordon J V Wylen & Richard E Sonntag, John Wiley Eastern Limited; 4th ed (**1994**).
9) Thermal Physics, S C Garg, R M Bansal & C K Ghosh, Mc Graw Hill Education (India) Second ed (**2013**).
10) Kinetic Theory of Gases (I – edition) – Ideal Book Service, Pune (1967)
11) Kinetic Theory of Gases – Kelkar V N.
12) Kinetic theory of gases – R. S. Bhoosanurmath
13) Heat and Thermodynamics and Statistical Physics (XVII Edition) –Singhal, Agarwal and Satyaprakash
14) A Treatise on Heat: Meghnad N. Saha and B. N. Srivastava, Indian Press, (1958).
15) A Text Book of Heat and Thermodynamics for Degree Students : J. B. Rajam, S. Chand Publications, (1981).
16) Properties of Matter - Brijlal & Subramanyam, S Chand & Co, (**2002**)
17) Elements of Properties of matter – D S Mathur, S.chand(GL) 7 Co Ltd,Delhi 1ed(**2010**)
18) Fluid Mechanics: Robert W. Fox & Alan T. Mcdonald, Wiley India, 8th Edn.
19) Low-Temperature Physics: Hans- Christian Stahl, Siegfried Hunklinger, Springer Science & Business Media, (2005).
20) Waves & Oscillations, P K Mittal & Jai Dev Anand, Hari Anand Publications Pvt Ltd (2011ed).

21) Physics of Waves, University Leadership Project, Prasaranga, Bangalore University.
22) A text book of Sound (II Edition) – Brijlal and Subramanyam, Vikas Publishing House, 1977.
23) Text book of Sound (I Edition) – Khanna and Bedi, Atmaram and Sons,1985.
24) Text book of Sound (III Edition) – M. Ghosh, (S.Chand).
25) Waves and Optics, S P Taneja, R Chand & Co. New Delhi.
26) Thermal Physics, Ashok Kumar, S P Taneja, R Chand & Co. New Delhi.

Practical

Paper Code: PHYDSCP3.1 **Paper Title: Practical III**

Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10

Credits : 1

1. Viscosity by Stokes Method
2. Surface tension by Jaegers method
3. Helmoltz Resonator
4. Velocity of sound through wire (sonometer)
5. Characteristics of Loud speaker
6. Thermal conductivity by Lee's method
7. Verification of Newton's law of cooling
8. Specific heat by cooling.
9. Verification of Stefan's law of radiation.
10. Characteristics of microphone
11. Lissajous figures using CRO
12. Thermo-Electric Circuit to find Seebeck Effect
13. Thermal Behavior of Bulb Filament.
14. Calibration of thermistor for temperature measurement.
15. Calibration of thermocouple for temperature measurement.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

References:

1. Physics through experiments. B Saraf etc.- Vikas Publications (2013)
2. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes. Vikas Publications First ed (1985)
3. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co. London.
4. An Advanced Course in Practical Physics , D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition. (2002)
5. BSC. Practical Physics. CL Arora. SChand & Co. New Delhi. (2007) Revised Edition.
6. B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Third Semester B.Sc. (Physics) Skill Enhancement Course

Paper Code: PHYSECT3.2 **Paper Title:** Weather Forecasting
Teaching Hours: 2Hrs / Week **Marks:** Th-40+IA-10
TOTAL HOURS :30 **Credits :2**

The aim of this course is not just to impart theoretical knowledge to the students but to enable them to develop an awareness and understanding regarding the causes and effects of different weather phenomenon and basic forecasting techniques

Unit I

Introduction to atmosphere: Elementary idea of atmosphere: physical structure and composition; compositional layering of the atmosphere; variation of pressure and temperature with height; air temperature; requirements to measure air temperature; temperature sensors: types; atmospheric pressure: its measurement; cyclones and anticyclones: its characteristics.

Measuring the weather: Wind; forces acting to produce wind; wind speed direction: units, its direction; measuring wind speed and direction; humidity, clouds and rainfall, radiation: absorption, emission and scattering in atmosphere; radiation laws.

Weather systems: Global wind systems; air masses and fronts: classifications; jet streams; local thunderstorms; tropical cyclones: classification; tornadoes; hurricanes.

15 Hours

Unit II

Climate and Climate Change: Climate: its classification; causes of climate change; global warming and its outcomes; air pollution; aerosols, ozone depletion, acid rain, environmental issues related to climate.

Basics of weather forecasting: Weather forecasting: analysis and its historical background; need of measuring weather; types of weather forecasting; weather forecasting methods; criteria of choosing weather station; basics of choosing site and exposure; satellites observations in weather forecasting; weather maps; uncertainty and predictability; probability forecasts.

15 Hours

Unit III

Demonstrations and Experiments:

1. Study of synoptic charts & weather reports, working principle of weather station.
2. Processing and analysis of weather data:

(a) To calculate the sunniest time of the year.
(b) To study the variation of rainfall amount and intensity by wind direction.
(c) To observe the sunniest/driest day of the week.
(d) To examine the maximum and minimum temperature throughout the year.
(e) To evaluate the relative humidity of the day.
(f) To examine the rainfall amount month wise.

3. Exercises in chart reading: Plotting of constant pressure charts, surfaces charts, upper wind

charts and its analysis

4. Formats and elements in different types of weather forecasts/ warning (both aviation and non aviation)

References:

1. Aviation Meteorology, I.C. Joshi, 3rd edition 2014, Himalayan Books
2. The weather Observers Hand book, Stephen Burt, 2012, Cambridge University Press.
3. Meteorology, S.R. Ghadekar, 2001, Agromet Publishers, Nagpur.
4. Text Book of Agrometeorology, S.R. Ghadekar, 2005, Agromet Publishers, Nagpur.
5. Why the weather, Charls Franklin Brooks, 1924, Chpraman & Hall, London.
6. Atmosphere and Ocean, John G. Harvey, 1995, The Artemis Press.

Fourth Semester B.Sc. (Physics)

Paper Code: PHYDSCT4.1 **Paper Title:** Thermodynamics-II, Statistical Mechanics and Optics
Teaching Hours: 4 Hrs / Week **Marks:** Th-80+IA-20
Total hours :60 **Credits :3**

Unit I

Thermodynamic Relations

Four Fundamental thermodynamic potentials (Internal energy, Enthalpy, Helmoltz free energy and Gibbs free energy). Maxwell's equations from thermodynamic potentials. Derivation for (C_p-C_v) and $\frac{C_p}{C_v}$ using Maxwell's Equations. Three Tds equations using Maxwell's relations.

Statistical Mechanics

Concepts of thermodynamic ensembles (micro-canonical, canonical and grand canonical ensembles). Phase Space- Micro state & Macro state. Thermodynamic probabilities. Maxwell-Boltzman Statistics. Derivation for Maxwell- Boltzman distribution function. Limitations Maxwell-Boltzman Statistics. Concepts of Bosons and fermions . Bose-Einstein Statistics. Derivation for Bose-Einstein distribution function. Fermi-Dirac Statistics. Derivation for Fermi-Dirac distribution function. Comparison of Maxwell- Boltzmann Statistics, Bose-Einstein Statistics, Fermi-Dirac Statistics.

15 Hours

Unit II

Thermo-Electricity

Seebeck Effect –explanation. Variation of emf with temperature ; Neutral Temperature and Temperature of inversion. Thermo-electric Series. Laws of Thermo-Electric effects. Peltier Effect-explanation. Peltier's Coefficients. Thermodynamics of Peltier's Effect. Thomson Effect – explanation. Thomson Coefficient. Derivation of the relation $\pi = T\frac{dz}{dT}$ & $\sigma_A - \sigma_B = T\frac{d^2z}{dT^2}$ Thermo-Electric (Tait) diagrams, its applications to determine, (1) Total emf (2) Peltier emf (3) Thomson emf (4) Neutral temperature and (5) Temperature of inversion.

15 Hours

Unit III

Interference

Interference due to division of wavefront & amplitude. Young's double slit experiment. Lloyd's mirror. Fresnel biprism . Phase change on reflection: Stokes' treatment of reflection and transmission at interface. Interference in thin films – due to reflected light and transmitted light. Newton's rings due to reflected light and transmitted light & measurement of wavelength. Michelson's interferometer.

15 Hours

Unit IV

Diffraction

Fresnel's Diffraction. Half Period Zone using rectilinear propagation of light. Zone plate: Construction, theory and working. Fresnel's diffraction pattern due to straight edge and position of minima and maxima. Fraunhofer's diffraction at single slit. Diffraction grating. Theory of plane transmission grating. Resolving power. Rayleigh's criteria. Resolving power of prism. Resolving power of telescope. Resolving power of grating (qualitative).

Polarization

Transverse nature of light waves- plane of vibration and plane of propagation. Malu's law. Dduble refraction. Positive and negative plates. Retardation plates: Quarter wave plate and half wave plate. Production of Circular and elliptical polarization, Optical Activity: Fresnel's Theory of optical activity. Specific rotation

15 Hours

REFERENCE BOOKS:

1) Statistical Mechanics, An Introduction, **Evelyn Guha**, Narosa (**2008**)
2) Statistical Mechanics, ***R.K.Pathria***, 2nd edition, Pergamon Press (**1972**)
3) Statistical and Thermal physics, ***F.Reif***, McGraw Hill International(**1985**)
4) Statistical Mechanics, ***K.Huang***, Wiley Eastern Limited, New Delhi (**1975**).
5) Fundamentals of Statistical Mechanics: B. B. Laud; New Age International Publishers, 2nd Edn.
6) Heat and Thermodynamics- Brij Lal and N Subramanyam, S Chand & Co, New Delhi -1985.
7) Heat and Thermodynamics – D S Mathur, SChand & Co. New Delhi, 5th Edition (2004).
8) Heat and Thermodynamics and Statistical Physics (XVII Edition) –Singhal, Agarwal and Satyaprakash.
9) Introduction to Thermoelectricity: H. Julian Goldsmith, Springer Science & Business Media, (2009).
10) Optics, Ajoy Ghatak, Tata Mc Graw Hill, 4th Edition
11) Introduction to Modern Optics, Ajoy Ghatak, Tata McGraw Hill Publications (**2009**).
12) Fundamentals of Physics by Halliday, Resnick and Walker, Asian Books Private Limited, New Delhi, 5th Edition, (**1994**)
13) A K Ghatak and K Thyagarajan, Contemporary Optics, Macmillan/Premium Publishing Corp(**1978**).
14) Jenkins and White, Optics, McGraw Hill Education India Pvt Ltd 4th ed(**2011**).
15) Optics, Brij Lal and Subramaniam, S Chand & Company, 22nd Edition, (**1994**).
16) Principles of Optics, B K Mathur, Gopal Printing Press, Kanpur, 6th Edition, (**1996**).
17) Geometrical Optics (I-Edition) – D.P.Acharya (Oxford & IBH Pub. Co., 1970).
18) Optics and Spectroscopy (VI Edition) – Murugeshan, Kiruthiga and ShivaPrasad (S.Chand).
19) Fundamentals of Optics (V-Edition) – Khanna and Bedi (R.Chand, New Delhi).
20) Geometrical Optics: A. Verstraetin

Practical

Paper Code: PHYDSCP4.1 **Paper Title:** Practical IV

Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10

Credits : 1

1. Dispersive Power of Prism
2. Determination of thermo emf
3. Thermoelectric power using potentiometer
4. Determination of wavelength of monochromatic light using single slit / plane transmission grating.
5. Diffraction Grating in minimum Deviation Position
6. Diffraction Grating in Normal Position
7. Newton's Rings : Determination of Radius of curvature of Plano Convex lens
8. Newton's Rings : Determination of RI of Water
9. Fresnel's Biprism – Determination of wavelength of monochromatic light.
10. Resolving Power of Telescope
11. Resolving Power of Grating
12. Resolving Power of Prism
13. Specific rotation of optically active solution using Polarimeter
14. Verification of Brewster's Law
15. Stefan's constant by black body radiation.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

References:

1. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes. Vikas Publications First ed (1985)
2. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London.
3. An Advanced Course in Practical Physics , D Chattopadhyay, P C Rakshit. B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (2002)
4. BSC, Practical Physics, CL Arora, SChand & Co, New Delhi, (2007) Revised Edition.
5. B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Fourth Semester B.Sc. (Physics) Skill Enhancement Course

Paper Code: PHYDSCT4.2 **Paper Title:** Renewable Energy Sources
Teaching Hours: 2Hrs / Week **Marks:** Th-40+IA-10
Total hours:30 **Credits :2**

The aim of this course is not just to impart theoretical knowledge to the students but to provide them with exposure and hands-on learning wherever possible

Unit I

Fossil fuels and Alternate Sources of energy: Fossil fuels and Nuclear Energy, their limitation, need of renewable energy, non-conventional energy sources. An overview of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity.

Solar energy: Solar energy, its importance, storage of solar energy, solar pond, non convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning. Need and characteristics of photovoltaic (PV) systems. Sun tracking systems.

Wind Energy harvesting: Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies.

Ocean Energy: Ocean Energy Potential against Wind and Solar, Wave Characteristics. Wave Energy Devices. Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy.

15 Hours

Unit II

Geothermal Energy: Geothermal Resources, Geothermal Technologies.

Hydro Energy: Hydropower resources, hydropower technologies, environmental impact of hydro power sources.

Piezoelectric Energy harvesting: Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity. Piezoelectric parameters and modeling piezoelectric generators, Piezoelectric energy harvesting applications, Human power.

Electromagnetic Energy Harvesting: Linear generators, physics mathematical models, recent applications. Carbon captured technologies, cell, batteries, power consumption. Environmental issues and Renewable sources of energy, sustainability.

15 Hours

Demonstrations and Experiments

1. Demonstration of Training modules on Solar energy, wind energy, etc.
2. Conversion of vibration to voltage using piezoelectric materials
3. Conversion of thermal energy into voltage using thermoelectric modules.

References:

1. Non-conventional energy sources - G.D Rai - Khanna Publishers, New Delhi
2. Solar energy - M P Agarwal - S Chand and Co. Ltd.

3. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
4. Godfrey Boyle, "Renewable Energy, Power for a sustainable future", 2004,
5. Oxford University Press, In association with The Open University.
6. Dr. P Jayakumar, Solar Energy: Resource Assesment Handbook, 2009
7. J.Balfour, M.Shaw and S. Jarosek, Photovoltaics, Lawrence J Goodrich (USA)
8. http://en.wikipedia.org/wiki/Renewable_energy

Fifth Semester B.Sc. (Physics)

Paper Code: PHYDSCT5.1 **Paper Title:** Mathematical Physics – I, Nuclear and Particle Physics and Classical Mechanics

Teaching Hours: 4 Hrs / Week **Marks:** Th-80+IA-20

Total hours:60 **Credits :3**

Unit I

MATHEMATICAL PHYSICS – I

INTEGRAL TRANSFORMS

Fourier Series: Periodic functions. Orthogonality of sine and cosine functions, Dirichlet Conditions (Statement only). Expansion of periodic functions in a series of sine and cosine functions and determination of Fourier coefficients. Complex representation of Fourier series. Expansion of functions with arbitrary period. Expansion of non-periodic functions over an interval. Even and odd functions and their Fourier expansions. Application. Summing of Infinite Series.

Laplace transform: Definition, transform of elementary functions , Inverse transforms, transform of derivations, differentiation and integration of transforms, solutions of differential equations. Difference between Laplace and Fourier transform.

15 Hours

Unit II

NUCLEAR AND PARTICLE PHYSICS - I

RADIOACTIVE DECAY, DETECTORS AND ACCELERATORS

Radioactive Decay : Laws of radioactive decay, half – life, mean life, decay constant; theory of successive disintegration (expression for number of atoms of n^{th} element in the chain – Bateman equations); radioactive equilibrium (secular and transient - cases of long lived parent, short lived parent, daughter and parent of nearly equal half – life).

Alpha decay : Range and energy, Geiger- Nuttal law , Characteristics of alpha spectrum; Gamow's theory of alpha decay (Barrier height, tunneling effect, $\lambda=Pf$, f is the frequency of collision of nucleon with the potential barrier; P is the probability of transmission through the barrier); Barrier penetrability factor (no derivation). Derivation of Q-value-of alpha decay; Exact energy of alpha particle emitted.

Alpha particle scattering : Rutherford's theory of alpha scattering (assuming the path to be hyperbolic).

Beta decay : Types of beta decay (electron, positron decay and electron capture) Characteristics of beta spectrum and Paull's neutrino hypothesis.

Detectors : Variation of ionization current with applied voltage in a gas counter, Proportional counter, GM Counter (Construction, working, characteristics, efficiency and quenching).

Particle accelerators : Linear accelerator, Cyclotron, Betatron

15 Hours

Unit III

NUCLEAR AND PARTICLE PHYSICS - II

NUCLEAR REACTIONS AND PARTICLE PHYSICS

NUCLEAR REACTIONS : Types of reactions, Conservation laws in nuclear reactions with examples, derivation of Q – value for reactions using the energy – momentum conservation, exoergic and endoergic reactions, threshold energy , reaction rate, reaction cross – section, concept of direct and compound reactions, resonance reaction; Power reactors.

ELEMENTARY PARTICLES : Classification of elementary particles, Fundamental interactions

(Gravitational, Electromagnetic, Weak, strong – range, relative strength, particle interactions for each); Symmetries and Conservation Laws (momentum, energy, charge, parity, lepton number, baryon number, isospin, strangeness and charm); Concept of Quark Model, Color quantum number and gluons.

15 Hours

Unit IV

CLASSICAL MECHANICS

Lagrangian Mechanics: Constraints, generalized co-ordinates, D Alembert's principle, Lagrange equation from D'Alemberts Principle. Advantage of Lagrangian equation, Velocity dependent potentials and dissipation function. Applications of Lagrangian formulation in case of simple pendulum and Atwood Machine. Hamilton's principle, Derivation of Lagrange's equation from Hamilton's Principle. Symmetry and conservation laws: momentum conservation, cyclic co-ordinates, angular momentum conservation and conservation of energy.

15 Hours

Reference Books:

1) Mathematical Physics ---H. K. Dass and Dr. Rama Verma
2) Mathematical Methods for Physicists (4th Edition) George Arfken and Hans J. Weber Academic Press San Diego(1995).
3) Mathematical Physics - P.K. Chatopadhyay-Wiley Eastern Limited New Delhi (1990).
4) Introduction to mathematical Physics – Charlie Harper, Prentice-Hall of India Private Limited New-Delhi (1995)
5) Mathematical Physics - M.L.Boas
6) Atomic and Nuclear Physics, S. N. Ghoshal: Vol. II. (2000)
7) Alpha, beta and gamma spectroscopy, K. Seighbahn: Vol. I and II, John Wiley (1967)
8) Introductory nuclear Physics by Kenneth S. Krane (Wiley India Pvt. Ltd., 2008).
9) Nuclear Physics, D C Tayal, Himalaya Publishing House, 5th Edition
10) Concepts of nuclear physics by Bernard L. Cohen. (Tata Mcgraw Hill, 1998).
11) Introduction to the physics of nuclei & particles, R.A. Dunlap. (Thomson Asia, 2004)
12) Introduction to Elementary Particles, D. Griffith, John Wiley & Sons 2nd revised ed (**2008**)
13) Quarks and Leptons, F. Halzen and A.D. Martin, Wiley India, New Delhi(**2008**)
14) Basic ideas and concepts in Nuclear Physics - An Introductory Approach by K. Heyde (IOP- Institute of Physics Publishing. (2004)
15) Radiation detection and measurement, G.F. Knoll (John Wiley & Sons, (**2000**)
16) Theoretical Nuclear Physics, J.M. Blatt & V.F.Weisskopf (Dover Pub.Inc., (**1991**)
17) Classical Mechanics: Goldstein, Narosa Publishing Pvt. Ltd. (1998).
18) Introduction to Classical Mechanics: R. G. Takwale & P. S. Puranik -Tata McGraw Hill, New Delhi (1997).
19) Classical Mechanics, Aruldas

Practical

Paper Code: PHYDSCP5.1 **Paper Title:** Practical V

Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10

Credits : 1

1. Characteristics of GM Tube
2. Verification of Inverse Square law using GM Tube.
3. Attenuation of B-ray using G.M. counter
4. Ionization potential of xenon or mercury
5. Frank Hertz Experiment
6. Calibration of Thermocouple using Meter bridge (Whetsone's bridge)
7. Astable Multivibrator using Transistor
8. Phase Shift Oscillator using Op-Amp
9. Wein Bridge Oscillator using Op-Amp
10. Millikan's oil drop experiment.
11. Determination of e/m by Thomson's method.
12. Op-Amp inverting and non-inverting amplifier – ac or dc.
13. Op-Amp as a differiantial amplifier- Common mode and Differential mode.
14. Op-Amp as summing amplifier- ac and dc.
15. Op-Amp as integrator and differentiator.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed

References:

1. O P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vikas Publications First ed (**1985**)
2. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London.
3. An Advanced Course in Practical Physics , D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (**2002**)
4. BSC, Practical Physics, CL Arora, SChand & Co, New Delhi, (**2007**) Revised Edition.
5. B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Fifth Semester B.Sc. (Physics) Elective I

Paper Code: PHYDSCTS:2A

Paper Title: Quantum Mechanics–I, Electronics and Optoelectronics

Teaching Hours: 4 Hrs / Week

Marks: Th-80+IA-20

Total hours:60

Credits :3

Unit I

QUANTUM MECHANICS – I

Failure of Classical Physics to explain the phenomena such as stability of atom, atomic spectra, black body radiation, photoelectric effect, Compton effect and specific heat of solids, Planck's quantum theory, Explanation of the above effects on the basis of quantum mechanics [Experimental observation, failure of classical theory, quantum mechanical explanation, Photoelectric effect -Einstein's explanation, Compton Effect – mention of expression for wavelength shift (no derivation), Specific heat of solids -Einstein's and Debye's explanation of specific heat (qualitative). Stability of atom and atomic spectra, Black body radiation [Mention of Planck's equation, arrive at Wien's and Rayleigh-Jean's equation for energy distribution from Planck's equation].

de Broglie's hypothesis of matter waves (λ in terms of momentum, energy, temperature for monatomic gas molecules); Thomson's experiment; Davisson and Germer's experiment – normal incidence method; Concept of wave packet, Group velocity and particle velocity (relation between group velocity and particle velocity) Heisenberg's uncertainty principle - different forms; Gamma ray microscope experiment; Application to Non – existence of electron in nucleus.

15 Hours

Unit II

ELECTRONICS - I

Semiconductors

Distinction between metals, semiconductors and insulators based on band theory (qualitative). Intrinsic semiconductors - concept of holes – effective mass - expression for carrier concentration (derivation for both holes and electrons) and electrical conductivity – extrinsic semiconductors – concept of doping. Formation of P-N junction, depletion region, barrier potential (qualitative). Biased P-N junction, drift and diffusion current –expression for diode current.

Special Diodes: Zener diode – characteristics and its use as a voltage regulator. Photo diodes, Solar cells and LED (working principle with energy level diagram).

Transistors: Transistor action, Characteristics (CE mode), DC Biasing , Load line analysis (Operating Point, Fixed Bias – Forward bias of Base – Emitter, collector – emitter loop, transistor saturation, Load line analysis ; Voltage divider bias – Transistor saturation, Load line analysis)

Transistor as an amplifier(CE mode); . H-parameters.

15 Hours

Unit III

ELECTRONICS - II

Oscillators:Transistor as an oscillator, comparison between amplifier and oscillator, Classification of oscillators-damped and undamped oscillators, the oscillatory circuit, Barkhausen Criterion, frequency of oscillatory current, essentials of a feedback LC oscillator. Hartely and Phase shift oscillators

Field Effect Transistor (FET)

FET-Types, characteristics and parameters. FET as a common source amplifier (Qualitative).

Operational amplifiers

Block Diagram of an OPAMP, Characteristics of an Ideal and Practical Operational Amplifier (IC 741), Open loop configuration - Limitations, Gain Bandwidth Product, Frequency Response, CMRR, Slew Rate and concept of Virtual Ground.

Feedback concepts, Advantages of feedback, types of feedback, Expression for Gain; OPAMP as a feedback amplifier – Non – Inverting and Inverting amplifier, Modification of input and output impedances with feedback ; Voltage follower, Differential amplifier with feedback.

Linear Applications - frequency response of Low pass, high pass and band pass filters (first order), inverting summing amplifier, ideal Differentiator, Integrator.

DIGITAL ELECTRONICS

Number Systems : binary, octal, hexadecimal (interconversions); Number codes : BCD, Gray Code (conversions to other systems); Signed Numbers; Arithmetic using Radix and Radix -1 complement.

Logic gates and truth tables : OR gate, AND gate; Inverter (the NOT function); NAND and NOR; exclusive OR; exclusive NOR.

15 Hours

Unit IV

OPTOELECTRONICS

Light Emitting Diodes. Photo Diodes, Principle of LED with energy level diagram. Semiconductor Laser Diodes: homojunction and heterojunction laser diodes principle (Pin, Avalanche diodes), Photo transistor, Opto-coupler.

Optical fiber: description and classification: Why glass fibers? Types of Optical fibers (Single mode, Multi mode optical fibres), Ray dispersion in multi-mode step index fibers, Grading, Numerical aperture (derivation), Coherent bundle, Transmission loss: bending loss and splicing loss, Attenuation and Distortion. Fiber Optical communication system (Block diagram with each block explanation).

15 Hours

Reference Books:

1) Quantum Mechanics, B H. Bransden and C.J. Joachain, 2nd Edition, Pearson Education (2004)
2) Introduction to Quantum Mechanics, David J. Griffiths, 2nd Edition, Pearson Education ,(2005)
3) Modern Quantum Mechanics, J.J. Sakurai, Pearson Education, (2000)
4) Principles of Quantum Mechanics, Ghatak and Lokanathan, Macmillan, (2004)
5) Concepts of Modern Physics, Beiser 3rd edition, Student edition, New Delhi (1981)
6) Principles of Electronics by V K Mehta and Rohit Mehta, SChand & Company, Eleventh Edition, (2008).
7) Electricity & Electronics, D C Tayal, Himalaya Publishing House, Sixth Edition(1988)
8) Basic Electronics & Linear Circuits, NN Bhargava, DC Kulshrestha & SC Gupta, TMH Publishing Company Limited, 28th Reprint, (1999).
9) Basic electronics by B Basavraj, Vikas publication, 2nd edition.
10) Op-amp and linear integrated circuits, R. A. Gayakwad, Pearson education.
11) Electronic devises, Thomas Floyd, Pearson publications (ninth edition 201).
12) Optoelectronics – By Ajay Ghatak.
13) Fiber optic communication – By D.C. Agarwal.
14) Fiber optical communication – By Keiser.
15) Introduction to Optical Electronics – By J.Wilson & Hawkes PHI.

Practical: Elective I

Paper Code: PHYDSCP 5.2 | **Paper Title:** Practical VIA
Teaching Hours: 3 Hrs / Week | **Marks:** Th-40+IA-10
Credits : 1

1. Transistor as CE Amplifier
2. H-Parameter of transistor
3. Heartley Oscillator using Transistor
4. Phase Shift Oscillator using Transistor
5. FET Characteristics
6. FET as an Amplifier
7. Use of Basics gates to verify and design AND, OR, NOT and XOR gates using NAND gates.
8. De Morgan Theorems.
9. To covert Boolean Expression in to Logic gate circuit and assemble it using logic gate IC's.
10. Low Pass Filter Using Op-Amp
11. High Pass Filter Using Op-Amp
12. Band Pass Filter Using Op-Amp
13. Transistor as an Emitter Follower.
14. Regulated power supply using Zener diode.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed

References :

1. Worsnop and Flint , Advanced practical physics for students, Asia Pub.(**1979**)
2. Singh and Chauhan, Advanced practical physics, 2 vols., Pragati prakashan, (**1976**)
3. Misra and Misra, Physics Lab. Manual, South Asian publishers (**2000**)
4. Gupta and Kumar, Practical physics, Pragati prakashan, (**1976**)
5. Ramalingam & Raghuopalan : A Lab. Course in Electronics
6. Bharagav et al : Electronics, TTI tata MacGraw Hill 33rd Reprint (**2002**)

Fifth Semester B.Sc. (Physics) Elective II

Paper Code: PHYDSCT5.2B **Paper Title:** Mathematical Physics, Nuclear and Particle Physics and Classical Mechanics

Teaching Hours: 4 Hrs / Week **Marks:** Th-80+IA-20

Total hours:60 **Credits :3**

Unit I

ELECTRONICS - I

Semiconductors

Distinction between metals, semiconductors and insulators based on band theory (qualitative). Intrinsic semiconductors - concept of holes – effective mass - expression for carrier concentration (derivation for both holes and electrons) and electrical conductivity – extrinsic semiconductors – concept of doping. Formation of P-N junction, depletion region, barrier potential (qualitative). Biased P-N junction, drift and diffusion current –expression for diode current.

Special Diodes: Zener diode – characteristics and its use as a voltage regulator. Photo diodes, Solar cells and LED (working principle with energy level diagram).

Transistors: Transistor action, Characteristics (CE mode), DC Biasing , Load line analysis (Operating Point, Fixed Bias – Forward bias of Base – Emitter, collector – emitter loop, transistor saturation, Load line analysis ; Voltage divider bias – Transistor saturation, Load line analysis)

Transistor as an amplifier(CE mode); , H-parameters.

15 Hours

Unit II

ELECTRONICS - II

Oscillators:Transistor as an oscillator, comparison between amplifier and oscillator, Classification of oscillators-damped and undamped oscillators, the oscillatory circuit, Barkhausen Criterion, frequency of oscillatory current, essentials of a feedback LC oscillator. Hartely and Phase shift oscillators

Field Effect Transistor (FET)

FET-Types, characteristics and parameters. FET as a common source amplifier (Qualitative).

Operational amplifiers

Block Diagram of an OPAMP, Characteristics of an Ideal and Practical Operational Amplifier (IC 741), Open loop configuration - Limitations, Gain Bandwidth Product, Frequency Response, CMRR, Slew Rate and concept of Virtual Ground.

Feedback concepts, Advantages of feedback, types of feedback, Expression for Gain; OPAMP as a feedback amplifier – Non – Inverting and Inverting amplifier, Modification of input and output impedances with feedback ; Voltage follower; Differential amplifier with feedback.

Linear Applications - frequency response of Low pass, high pass and band pass filters (first order), Inverting summing amplifier, ideal Differentiator, Integrator.

DIGITAL ELECTRONICS

Number Systems - binary, octal, hexadecimal (interconversions); Number codes : BCD, Gray Code (conversions to other systems); Signed Numbers; Arithmetic using Radix and Radix -1 complement.

Logic gates and truth tables : OR gate, AND gate; Inverter (the NOT function); NAND and NOR; exclusive OR; exclusive NOR.

15 Hours

Unit III

OPTOELECTRONICS

Light Emitting Diodes. Photo Diodes. Principle of LED with energy level diagram. Semiconductor Laser Diodes: homojunction and heterojunction laser diodes principle (Pin. Avalanche diodes). Photo transistor. Opto-coupler.

Optical fiber: description and classification: Why glass fibers? Types of Optical fibers (Single mode. Multi mode optical fibres). Ray dispersion in multi-mode step index fibers. Grading. Numerical aperture (derivation). Coherent bundle. Transmission loss: bending loss and splicing loss. Attenuation and Distortion. Fiber Optical communication system (Block diagram with each block explanation).

15 Hours

Unit IV

QUANTUM MECHANICS – I

Failure of Classical Physics to explain the phenomena such as stability of atom, atomic spectra, black body radiation, photoelectric effect, Compton effect and specific heat of solids, Planck's quantum theory, Explanation of the above effects on the basis of quantum mechanics [Experimental observation, failure of classical theory, quantum mechanical explanation; Photoelectric effect -Einstein's explanation, Compton Effect – mention of expression for wavelength shift (no derivation), Specific heat of solids -Einstein's and Debye's explanation of specific heat (qualitative). Stability of atom and atomic spectra, Black body radiation [Mention of Planck's equation, arrive at Wien's and Rayleigh-Jean's equation for energy distribution from Planck's equation].

de Broglie's hypothesis of matter waves (λ in terms of momentum, energy, temperature for monatomic gas molecules); Thomson's experiment; Davisson and Germer's experiment – normal incidence method; Concept of wave packet. Group velocity and particle velocity (relation between group velocity and particle velocity) Heisenberg's uncertainty principle - different forms; Gamma ray microscope experiment; Application to Non – existence of electron in nucleus.

15 Hours

Reference Books:

16) Quantum Mechanics, B.H. Bransden and C.J. Joachain, 2nd Edition, Pearson Education (2004)
17) Introduction to Quantum Mechanics, David J. Griffiths, 2nd Edition, Pearson Education ,(2005)
18) Modern Quantum Mechanics, J.J. Sakurai, Pearson Education, (2000)
19) Principles of Quantum Mechanics, Ghatak and Lokanathan, Macmillan, (2004)
20) Concepts of Modern Physics, Beiser 3rd edition, Student edition, New Delhi (1981).
21) Principles of Electronics by V K Mehta and Rohit Mehta, SChand & Company, Eleventh Edition, (2008).
22) Electricity & Electronics, D.C Tayal, Himalaya Publishing House, Sixth Edition(1988)
23) Basic Electronics & Linear Circuits, NN Bhargava, DC Kulshrestha & SC Gupta, TMH Publishing Company Limited, 28th Reprint, (1999).
24) Basic electronics by B Basavraj, Vikas publication, 2nd edition.
25) Op-amp and linear integrated circuits, R. A. Gayakwad, Pearson education.
26) Electronic devises, Thomas Floyd, Pearson publications (ninth edition 201)
27) Optoelectronics – By Ajay Ghatak.
28) Fiber optic communication – By D.C. Agarwal.
29) Fiber optical communication – By Keiser.
30) Introduction to Optical Electronics – By J.Wilson & Hawkes PHI.

Practical: Elective II

Paper Code: PHYDSEP5.2B | **Paper Title:** Practical VIB

Teaching Hours: 3 Hrs / Week | **Marks:** Th-40+IA-10

Credits : 1

1. Transistor as CE Amplifier
2. H- Parameter of transistor
3. Heartley Oscillator using Transistor
4. Phase Shift Oscillator using Transistor
5. FET Characteristics
6. FET as an Amplifier
7. Use of Basics gates to verify and design AND, OR, NOT and XOR gates using NAND gates.
8. De Morgan Theorems.
9. To covert Boolean Expression in to Logic gate circuit and assemble it using logic gate IC's.
10. Low Pass Filter Using Op-Amp
11. High Pass Filter Using Op-Amp
12. Band Pass Filter Using Op-Amp
13. Transistor as an Emitter Follower.
14. Regulated power supply using Zener diode.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed

References :

1. Worsnop and Flint , Advanced practical physics for students, Asia Pub.(1979)
2. Singh and Chauhan, Advanced practical physics, 2 vols., Pragati prakashan, (1976)
3. Misra and Misra, Physics Lab. Manual, South Asian publishers (2000)
4. Gupta and Kumar, Practical physics, Pragati prakashan, (1976)
5. Ramalingam & Raghuopalan : A Lab. Course in Electronics
6. Bharagav et al : Electronics, TTI tata MacGraw Hill 33rd Reprint (2002)

Fifth Semester B.Sc. (Physics) Skill Enhancement Course

Paper Code: PHYSECTS 1 **Paper Title:** Basic Instrumentation Skills
Teaching Hours: 2Hrs / Week **Marks:** Th-40+IA-10
Total hours :30 **Credits :2**

This course is to get exposure with various aspects of instruments and their usage through hands-on mode. Experiments listed below are to be done in continuation of the topics

Unit I

Basic of Measurement: Instruments accuracy, precision, sensitivity, resolution range etc. Errors in measurements and loading effects. **Multimeter:** Principles of measurement of dc voltage and dc current, ac voltage, ac current and resistance. Specifications of a multimeter and their significance. **Electronic Voltmeter:** Advantage over conventional multimeter for voltage measurement with respect to input impedance and sensitivity. Principles of voltage, measurement (block diagram only). Specifications of an electronic Voltmeter/ Multimeter and their significance. **AC millivoltmeter:** Type of AC millivoltmeters: Amplifier- rectifier, and rectifier- amplifier. Block diagram ac millivoltmeter, specifications and their significance.

Cathode Ray **Oscilloscope:** Block diagram of basic CRO. Construction of CRT, Electron gun, electrostatic focusing and acceleration (Explanation only– no mathematical treatment), brief discussion on screen phosphor, visual persistence & chemical composition. Time base operation, synchronization. Front panel controls. Specifications of a CRO and their significance.

15 Hours

Unit II

Use of CRO for the measurement of voltage (dc and ac frequency, time period. Special features of dual trace, Introduction to digital oscilloscope, probes. Digital storage Oscilloscope: Block diagram and principle of working.

Signal Generators and Analysis Instruments: Block diagram, explanation and specifications of low frequency signal generators. pulse generator, and function generator. Brief idea for testing, specifications. Distortion factor meter, wave analysis.

Impedance Bridges & Q-Meters: Block diagram of bridge. working principles of basic (balancing type) RLC bridge. Specifications of RLC bridge. Block diagram & working principles of a Q- Meter. Digital LCR bridges.

Digital Multimeter: Block diagram and working of a digital multimeter. Working principle of time interval, frequency and period measurement using universal counter/frequency counter, time-base stability, accuracy and resolution.

15 Hours

The test of lab skills will be of the following test items:

1. Use of an oscilloscope.
2. CRO as a versatile measuring device.
3. Circuit tracing of Laboratory electronic equipment,
4. Use of Digital multimeter/VTVM for measuring voltages
5. Circuit tracing of Laboratory electronic equipment,
6. Winding a coil / transformer.
7. Study the layout of receiver circuit.
8. Trouble shooting a circuit

9. Balancing of bridges

Laboratory Exercises:

1. To observe the loading effect of a multimeter while measuring voltage across a low resistance and high resistance.
2. To observe the limitations of a multimeter for measuring high frequency voltage and currents.
3. To measure Q of a coil and its dependence on frequency, using a Q- meter.
4. Measurement of voltage, frequency, time period and phase angle using CRO.
5. Measurement of time period, frequency, average period using universal counter/ frequency counter.
6. Measurement of rise, fall and delay times using a CRO.
7. Measurement of distortion of a RF signal generator using distortion factor meter.
8. Measurement of R, L and C using a LCR bridge/ universal bridge.

Open Ended Experiments:

1. Using a Dual Trace Oscilloscope
2. Converting the range of a given measuring instrument (voltmeter, ammeter)

References:

1. A text book in Electrical Technology - B.L Theraja - S Chand and Co.
2. Performance and design of AC machines - M G Say ELBS Edn.
3. Digital Circuits and systems, Venugopal, 2011, Tata McGraw Hill.
4. Logic circuit design, Shimon P. Vingron, 2012, Springer.
5. Digital Electronics, Subrata Ghoshal, 2012, Cengage Learning.
6. Electronic Devices and circuits, S. Salivahanan & N. S.Kumar, 3rd Ed., 2012, Tata Mc-Graw Hill
7. Electronic circuits: Handbook of design and applications, U.Tietze, Ch.Schenk, 2008, Springer
8. Electronic Devices, 7/e Thomas L. Floyd, 2008, Pearson India

Sixth Semester B.Sc. (Physics)

Paper Code: PHYDECT6.1 **Paper Title:** Mathematical Physics – II. Atomic Molecular and Optical Physics and Atmospheric Physics

Teaching Hours: 4Hrs / Week **Marks:** Th-80+IA-20

Total hours:60 **Credits :3**

Unit I

MATHEMATICAL PHYSICS - II

Frobenius Method and Special Functions: Singular Points of Second Order Linear Differential Equations and their importance. Frobenius method and its applications to differential equations. Legendre Polynomials: Rodrigues Formula, generating functions and recursion relations, Orthogonality and normalization. Bessel function of the first kind, recursion relations, orthogonality. Hermite functions, generating functions and recursion relations, orthogonality and Laguerre and associated Laguerre polynomials, recursion relations.

15 Hours

Unit II

ATOMIC PHYSICS.

Vector Model of the Atom

Review of Bohr's theory of hydrogen atom, Sommerfeld's modification of the Bohr atomic model (qualitative). Spatial quantization and spinning electron. Different quantum numbers associated with the vector atom model, Spectral terms and their notations, Selection rules, Coupling schemes(*l*-s and j-j coupling in multi electron systems), Pauli's Exclusion Principle, Expression for maximum number of electrons in an orbit. Spectra of alkali elements (sodium D-line), Larmor precession, Bohr magneton, Stern-Gerlach Experiment . Zeeman Effect- Experimental study, theory of normal and anomalous Zeeman effect based on quantum theory. Paschen Back effect (qualitative).

15 Hours

Unit III

MOLECULAR PHYSICS AND LASERS.

Molecular Physics: Pure rotational motion, Spectrum and selection rules; Vibrational motion, vibrational spectrum and selection rules; Rotation-Vibration spectrum; Scattering of light-Tyndall scattering, Rayleigh scattering and Raman scattering. Experimental study of Raman effect, Quantum theory of Raman effect - Applications.

Lasers

Introduction; Spontaneous and stimulated emission; Einstein's coefficients and optical amplification; Population inversion; Main components of a laser; Lasing action; Ruby Laser - construction and working - energy level diagram; He-Ne Laser - construction and working - energy level diagram; Spatial Coherence and directionality, estimates of beam intensity, temporal coherence and spectral energy density.

15 Hours

Unit IV

ATMOSPHERIC PHYSICS

Fixed gases and variable gases; Temperature structure of the atmosphere; Hydrostatic balance,

Variation of pressure with altitude, scale height: Relative and Absolute humidity.
Beer's law (derivation); Global energy balance for earth – atmosphere system, Greenhouse effect; Atmosphere dynamics –Accelerated rotational frames of reference – Centripetal and Coriolis force (derivation), Gravity and pressure gradient forces (with derivation), Applications of Coriolis force – Formation of trade winds, cyclones, erosion of river banks

15 Hours

Reference Books:

1) Mathematical Physics ---H. K. Dass and Dr. Rama Verma
2) Mathematical Methods for Physicists (4th Edition) George Arfken and Hans J. Weber Academic Press San Diego(1995).
3) Mathematical Physics - P.K. Chatopadhyay-Wiley Eastern Limited New Delhi (1990).
4) Introduction to mathematical Physics – Charlie Harper, Prentice-Hall of India Private Limited New-Delhi (1995)
5) Mathematical Physics - M.L Boas
6) Introduction to Atomic Physics – H.E. White
7) Introduction to Modern Physics – H.S. Mani, G.K. Mehta-West Press (1989)
8) Physics of Atoms and Molecules – 2nd Ed., Brans den B.H. and Joachain C.J., Pearson Education, India (2006)
9) Principles of Modern Physics; A.P. French, John Wiley, London (1958).
10) Modern Physics - S.N. Ghoshal, Part 1 and 2 S. Chand and Company (1996).
11) Physics of the Atom, Wehr et. al. McGraw Hill
12) Lasers and Non-Linear Optics: B.B.Laud, Wiley Eastern Ltd., New Delhi (1991).
13) Principles of Lasers : O. Svelto, Planum Press, N. Y. (1982).
14) Laser Electronics : Joseph T. Verdeyen, Prentice-Hall of India Pvt. Ltd. NewDelhi (1989).
15) Lasers : Theory & Applications : K. Thyagarajan & A. Ghatak, MacMillan India, New Delhi (1981).
16) Laser Fundamentals : W.Q. Silfvast
17) Laser Principles & Applications : J. Wilson & J.F.B. Hawkes, Prentice-Hall Intl. Inc. (1983)
18) An Introduction to Lasers & their Applications : Donald C. O' Shea, W. Russell Callan & William T. Rhodes, Addison-Wesley, N. Y. (1977).
19) Introduction to atmospheric physics, David G Andrews, Cambridge university press publisher, 2nd edition.
20) Atmospheric science, John M Wallace, Peter V Hobbs, Academic press publisher, 2nd edition.

Practical

Paper Code: PHYDSCP6.1 **Paper Title:** Practical VII

Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10

Credits : 1

1. Air Wedge: Thickness of thin paper by measuring width of fringes produced by Air wedge film

2. Divergence of laser beam and finding angular spread
3. Determination of unknown wavelength by Grating element (using red and green diode lasers)
4. Zeeman Effect experiment.
5. Rydberg Constant: wavelength of spectral lines of Hydrogen and Rydberg constant calculation (assignment)
6. Study of Hydrogen Spectrum
7. Determination of e/m by Thomson Method.
8. Characteristics of Laser Diode
9. Optical fibre; Bending loss and attenuation
10. Zener Diode as Voltage regulator
11. Photoconductive cell characteristics
12. Photovoltaic Cell characteristics
13. Verification of Beer's law.
14. Relative humidity using hair hygrometer.
15. Estimation of relative humidity using wet and dry bulb thermometer.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed
3. **References :**

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics Vikas Publications
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers, 2000
6. Gupta and Kumar, Practical physics. Pragati prakashan, 1976.

Sixth Semester B.Sc. (Physics) Elective III

Paper Code:PHYDECT6.2A **Paper Title:** Quantum Mechanics-II, Condensed Matter Physics – I and nanomaterials

Teaching Hours: 4Hrs / Week **Marks:** Th-80+IA-20

Total hours :60 **Credits :3**

Unit I

QUANTUM MECHANICS-II

The concept of wave function, physical significance of wave function. Development of time dependent and time independent Schrodinger's wave equation. Max Born's interpretation of the wave function. Normalization and expectation values, Quantum mechanical operators, Eigen values and Eigen functions. Applications of Schrodinger's equation – free particle, particle in one dimensional box- derivation of Eigen values and Eigen function for infinite and finite potential well and tunnelling; Development of Schrodinger's equation for One dimensional Linear harmonic oscillator, Rigid rotator, Hydrogen atom – mention of Eigen function and Eigen value for ground state.

15 Hours

Unit II

CONDENSED MATTER PHYSICS – I

Crystal systems and X-rays: Crystal structure :Lattice, Lattice translational vectors, Basis of crystal structure, Types of unit cells, Coordination numbers, Bravais lattices, Seven crystal system, Miller indices, Expression for inter planner spacing. Crystal structure of NaCl and KCl. Crystal diffraction: Production and properties of X rays, Coolidge tube, Continuous and characteristic X-ray spectra; Moseley's law. , X-Ray diffraction, Scattering of X-rays, Bragg's law. Bragg's X-ray spectrometer-powder diffraction method of crystal structure determination.

Free electron theory of metals: Classical free electron model (Drude-Lorentz model), expression for electrical and thermal conductivity, Weidman-Franz law, Failure of classical free electron theory; Quantum free electron theory, Fermi level and Fermi energy Fermi-Dirac distribution function (expression for probability distribution F(E), statement only); Fermi Dirac distribution at T=0 and $E<E_f$, at T≠ 0 and $E>E_f$, F(E) vs E plot at T = 0 and T≠ 0. Density of states for free electrons (no derivation); Specific heats of solids: Classical theory, Einstein's and Debye's theory of specific heats. Hall Effect in metals.

Superconductivity : Introduction – Experimental facts – Zero resistivity – The critical field – The critical current density – Meissner effect, Type I and type II superconductors.

15 Hours

Unit III

Magnetic Properties of Matter and Dielectrics

Magnetic Properties of Matter

Review of basic formulae : Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, magnetization (M), Classification of Dia – , Para –, and ferro – magnetic materials; Classical Langevin Theory of dia – and Paramagnetic Domains. Quantum Mechanical Treatment of Paramagnetism. Curie's law, Ferromagnetism and Ferromagnetic Domains. Discussion of B-H Curve. Hysteresis and Energy Loss, Hard and Soft magnetic materials

Dielectrics : Static dielectric constant, polarizability (electronic, ionic and orientation), calculation of Lorentz field (derivation), Clausius-Mosotti equation (derivation), dielectric loss, dielectric breakdown. Electrostriction (qualitative). Piezo electric effect, cause, examples and applications.

15 Hours

Unit IV

NANOMATERIALS

Nanomaterials – Introduction, size effect-Surface to volume ratio; distinction between nanomaterials and bulk materials in terms of energy band. Classification – Electron confinement 0D, 1D, 2D- energy levels as a particle in a box (no derivation). Quantum dots, nanowires and nanofilms; Multilayered materials- Fullerene, Carbon Nano Tube (CNT), Graphene (Mention of structures and properties); Synthesis techniques (Top down- Explanation of Milling & bottom up - Sol gel process). Characterisation techniques- (brief description of SEM, TEM, AFM). Determination of particle size from XRD pattern using Debye-Scherrer formula.

Distinct properties of nano materials (Mention- optical, electrical, mechanical and magnetic properties); Mention of applications: (Fuel cells, catalysis, phosphors for HD TV, elimination of pollutants, sensors).

SPECIAL MATERIALS

Liquid crystals: Classification of liquid crystals, Display system. Introduction to polymers, classification and applications.

15 Hours

Reference Books:

1) Quantum Mechanics, ***B.H. Bransden and C.J. Joachain***, 2nd Edition, Pearson Education (**2004**)
2) Introduction to Quantum Mechanics, ***David J. Griffiths***, 2nd Edition, Pearson Education , (**2005**)
3) Modern Quantum Mechanics, ***J.J. Sakurai***, Pearson Education, (**2000**)
4) Principles of Quantum Mechanics, ***Ghatak and Lokanathan***, Macmillan, (**2004**)
5) Introduction to solid State Physics, ***Charles Kittel***, VII edition, (**1996**)
6) Solid State Physics- **A J Dekker**, MacMillan India Ltd, (**2000**)
7) Elementary Solid State Physic, **J P Srivastava**,PHI,(**2008**)
8) Essential of crystallography, **M A Wahab**, Narosa Publications (**2009**)
9) Solid State Physics-**F W Ashcroft and A D Mermin**-Saunders College (**1976**)
10) Solid State Physics-**S O Pillai**-New Age Int. Publishers (**2001**)
11) Solid State Physics-R. K. Puri and V.K. Babber , S.Chand publications,1st Edition(2004).
12) Fundamentals of Solid State Physics-B.S.Saxena,P.N. Saxena,Pragati prakashan Meerut(2017).
13) Condensed Matter Physics by Atulkumar Agarwal,Oxford Book Company(2013)
14) Nano materials, A K Bandopadhyay. New Age International Pvt. Ltd. Publishers (**2007**)
15) Nanocrystals, C. N. Rao, P. John Thomas
16) Nanotubes and wires, C. N. Rao, A. Govindaraj

Practical: Elective III

Paper Code: PHYDSCP 6.2A **Paper Title:** Practical VIIIA

Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10

Credits : 1

1. Determination of Plank's constant by Photo Cell
2. Hall Effect in semiconductor: determination of mobility, hall coefficient.
3. Eenergy gap of semiconductor (diode/transistor) by reverse saturation method

4. Thermistor energy gap
5. Fermi Energy of Copper
6. Analysis of X-ray diffraction spectra and calculation of lattice parameter.
7. Plank's constant by LED
8. Solar Cell: Fill Factor and Efficiency
9. Specific Heat of Solid by Electrical Method
10. Determination of Dielectric Constant of polar liquid.
11. Determination of dipole moment of organic liquid
12. B-H Curve Using CRO.
13. Calibration of Semiconductor temperature Sensor
14. Spectral Response of Photo Diode and its I-V Characteristics.
15. Determination of particle size from XRD pattern using Debye-Scherrer formula.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed

References :

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics, Vikas Publications
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers. (2000)
6. Gupta and Kumar, Practical physics, Pragati prakashan. (1976)

Sixth Semester B.Sc. (Physics) Elective IV

Paper Code: PHYDECT6.2B | **Paper Title:** Modern physics-II
Teaching Hours: 4Hrs / Week | **Marks:** Th-80+IA-20
Total hours :60 | **Credits :3**

Unit I

CONDENSED MATTER PHYSICS – I

Crystal systems and X-rays: Crystal structure :Lattice, Lattice translational vectors, Basis of crystal structure, Types of unit cells, Coordination numbers, Bravais lattices, Seven crystal system, Miller Indices, Expression for inter planner spacing, Crystal structure of NaCl and KCl. Crystal diffraction: Production and properties of X rays, Coolidge tube, Continuous and characteristic X-ray spectra; Moseley's law. , X-Ray diffraction, Scattering of X-rays, Bragg's law. Bragg's X-ray spectrometer-powder diffraction method of crystal structure determination.

Free electron theory of metals: Classical free electron model (Drude-Lorentz model), expression for electrical and thermal conductivity, Weidman-Franz law, Failure of classical free electron theory; Quantum free electron theory, Fermi level and Fermi energy Fermi-Dirac distribution function (expression for probability distribution F(E), statement only); Fermi Dirac distribution at T=0 and $E<E_f$, at T≠ 0 and $E>E_f$, F(E) vs E plot at T = 0 and T≠ 0. Density of states for free electrons (no derivation); Specific heats of solids: Classical theory, Einstein's and Debye's theory of specific heats. Hall Effect in metals.

Superconductivity : Introduction – Experimental facts – Zero resistivity – The critical field – The critical current density – Meissner effect, Type I and type II superconductors.

15 Hours

Unit II

Magnetic Properties of Matter and Dielectrics

Magnetic Properties of Matter

Review of basic formulae : Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, magnetization (M). Classification of Dia –, Para –, and ferro – magnetic materials.

Classical Langevin Theory of dia – and Paramagnetic Domains. Quantum Mechanical Treatment of Paramagnetism. Curie's law, Ferromagnetism and Ferromagnetic Domains. Discussion of B-H Curve. Hysteresis and Energy Loss, Hard and Soft magnetic materials

Dielectrics : Static dielectric constant, polarizability (electronic, ionic and orientation), calculation of Lorentz field (derivation), Clausius-Mosotti equation (derivation), dielectric loss, dielectric breakdown. Electrostriction (qualitative). Piezo electric effect, cause, examples and applications.

15 Hours

Unit III

NANOMATERIALS

Nanomaterials – Introduction, size effect-Surface to volume ratio; distinction between nanomaterials and bulk materials in terms of energy band. Classification – Electron confinement 0D, 1D, 2D- energy levels as a particle in a box (no derivation). Quantum dots, nanowires and nanofilms, Multilayered materials- Fullerene, Carbon Nano Tube (CNT), Graphene (Mention of

structures and properties); Synthesis techniques (Top down- Explanation of Milling & bottom up - Sol gel process). Characterisation techniques- (brief description of SEM, TEM, AFM). Determination of particle size from XRD pattern using Debye-Scherrer formula.

Distinct properties of nano materials (Mention- optical, electrical, mechanical and magnetic properties); Mention of applications: (Fuel cells, catalysis, phosphors for HD TV, elimination of pollutants, sensors)

SPECIAL MATERIALS

Liquid crystals: Classification of liquid crystals, Display system. Introduction to polymers, classification and applications.

15 Hours

Unit IV

QUANTUM MECHANICS-II

The concept of wave function, physical significance of wave function. Development of time dependent and time independent Schrodinger's wave equation. Max Born's interpretation of the wave function. Normalization and expectation values, Quantum mechanical operators, Eigen values and Eigen functions. Applications of Schrodinger's equation – free particle, particle in one dimensional box- derivation of Eigen values and Eigen function for infinite and finite potential well and tunnelling. Development of Schrodinger's equation for One dimensional Linear harmonic oscillator, Rigid rotator, Hydrogen atom – mention of Eigen function and Eigen value for ground state.

15 Hours

Reference Books:

1) Quantum Mechanics, ***B.H. Bransden and C.J. Joachain***, 2nd Edition, Pearson Education (**2004**)
2) Introduction to Quantum Mechanics, ***David J. Griffiths***, 2nd Edition, Pearson Education , (**2005**)
3) Modern Quantum Mechanics, ***J.J. Sakurai***, Pearson Education, (**2000**)
4) Principles of Quantum Mechanics, ***Ghatak and Lokanathan***, Macmillan, (**2004**)
5) Introduction to solid State Physics, ***Charles Kittel***, VII edition, (**1996**)
6) Solid State Physics- **A J Dekker**, MacMillan India Ltd, (**2000**)
7) Elementary Solid State Physic, **J P Srivastava**,PHI,(**2008**)
8) Essential of crystallography, **M A Wahab**, Narosa Publications (**2009**)
9) Solid State Physics-**F W Ashcroft and A D Mermin**-Saunders College (**1976**)
10) Solid State Physics-**S O Pillai**-New Age Int. Publishers (**2001**)
11) Solid State Physics-R. K. Puri and V.K. Babber , S.Chand publications,1st Edition(2004).
12) Fundamentals of Solid State Physics-B.S.Saxena,P.N. Saxena,Pragati prakashan Meerut(2017).
13) Condensed Matter Physics by Atulkumar Agarwal,Oxford Book Company(2013)
14) Nano materials, A K Bandopadhyay, New Age International Pvt. Ltd. Publishers (**2007**)
15) Nanocrystals, C. N. Rao, P. John Thomas
16) Nanotubes and wires, C. N. Rao, A. Govindaraj

Practical: Elective IV

Paper Code: PHYDSCP 2B
Paper Title: Practical VIIIB
Teaching Hours: 3 Hrs / Week
Marks: Th-40+IA-10
Credits : 1

1) Determination of Plank's constant by Photo Cell
2) Hall Effect in semiconductor: determination of mobility, hall coefficient.
3) Eenergy gap of semiconductor (diode/transistor) by reverse saturation method
4) Thermistor energy gap
5) Fermi Energy of Copper
6) Analysis of X-ray diffraction spectra and calculation of lattice parameter.
7) Plank's constant by LED
8) Solar Cell: Fill Factor and Efficiency
9) Specific Heat of Solid by Electrical Method
10) Determination of Dielectric Constant of polar liquid.
11) Determination of dipole moment of organic liquid
12) B-H Curve Using CRO
13) Calibration of Semiconductor temperature Sensor
14) Spectral Response of Photo Diode and its I-V Characteristics
15) Determination of particle size from XRD pattern using Debye-Scherrer formula.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.
3. **References :**

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics. Vikas Publications
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers. (2000)
6. Gupta and Kumar, Practical physics, Pragati prakashan. (1976)

Sixth Semester B.Sc. (Physics) Skill Enhancement Course

Paper Code: PHYDECT6.3 **Paper Title:** Electric circuits and Networks skills
Teaching Hours: 2Hrs / Week **Marks:** Th-40+IA-10
Total hours:30 **Credits :2**

The aim of this course is to enable the students to design and trouble shoots the electrical circuits, networks and appliances through hands-on mode

Unit I

Basic Electricity Principles: Voltage, Current, Resistance, and Power. Ohm's law. Series, parallel, and series-parallel combinations. AC Electricity and DC Electricity. Familiarization with multimeter, voltmeter and ammeter.

Understanding Electrical Circuits: Main electric circuit elements and their combination. Rules to analyze DC sourced electrical circuits. Current and voltage drop across the DC circuit elements. Single-phase and three-phase alternating current sources. Rules to analyze AC sourced electrical circuits. Real, imaginary and complex power components of AC source. Power factor. Saving energy and money.

Electrical Drawing and Symbols: Drawing symbols. Blueprints. Reading Schematics. Ladder diagrams. Electrical Schematics. Power circuits. Control circuits. Reading of circuit schematics. Tracking the connections of elements and identify current flow and voltage drop.

Generators and Transformers: DC Power sources. AC/DC generators. Inductance, capacitance, and impedance. Operation of transformers.

Electric Motors: Single-phase, three-phase & DC motors. Basic design. Interfacing DC or AC sources to control heaters & motors. Speed & power of ac motor.

15 Hours

Unit II

Solid-State Devices: Resistors, inductors and capacitors. Diode and rectifiers. Components in Series or in shunt. Response of inductors and capacitors with DC or AC sources.

Electrical Protection: Relays. Fuses and disconnect switches. Circuit breakers. Overload devices. Ground-fault protection. Grounding and isolating. Phase reversal. Surge protection. Interfacing DC or AC sources to control elements (relay protection device)

Electrical Wiring: Different types of conductors and cables. Basics of wiring-Star and delta connection. Voltage drop and losses across cables and conductors. Instruments to measure current, voltage, power in DC and AC circuits. Insulation. Solid and stranded cable. Conduit. Cable trays. Splices: wirenuts, crimps, terminal blocks, split bolts, and solder. Preparation of extension board.

15 Hours

Reference Books:

1. A text book in Electrical Technology - B L Theraja - S Chand & Co.
2. A text book of Electrical Technology - A K Theraja
3. Performance and design of AC machines - M G Say ELBS Edn.

Question Paper pattern

First Semester B.Sc. Degree Examination, December 2020
(CBCS Scheme-2020-21: Regular)
PHYSICS
PHYDSC T11: Mechanics and Theory of relativity

Time: 3 hours | Max. Marks: 80

1.		Answer any 10 sub question	10 x 2 = 20
	i.		
	ii.		
	iii.		
	iv.		
	v.		
	vi.		
	vii.		
	viii.		
	ix.		
	x.		
	xi.		
	xii.		
2.			
	(a)		5 marks
	(b)		10 marks
		OR	
3.	(a)		5 marks
	(b)		10 marks
4	(a)		5 marks
	(b)		10 marks
		OR	
5	(a)		5 marks
	(b)		10 marks
6.	(a)		5 marks
	(b)		10 marks
		OR	
7.	(a)		5 marks
	(b)		10 marks

8.	(a)	5 marks
	(b)	10 marks
	OR	
9.	(a)	5 marks
	(b)	10 marks

.....

Instruction to set the question paper.

1. Question number 1 has 12 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any ten questions.
2. Question number 2 and 3 are from unit I.
3. Question number 4 and 5 are from unit II.
4. Question number 6 and 7 are from unit III.
5. Question number 8 and 9 are from unit IV.
6. Student has to answer either question number 2 or 3, 4 or 5, 6 or 7 and 8 or 9. Note: In case student answered both the questions from the same unit in full or part, highest marks from any one choice has to be considered.

Question paper pattern for skill enhancement course, SEC

Third Semester B.Sc. Degree Examination, December 2021
(CBCS Scheme-2020-21: Regular)
PHYSICS
PHYSEC T32: Skill Enhancement Course

Time: 2 hours Max. Marks: 40

1.		**Answer any 5 sub question**	**5 x 2 = 10**
	i.		
	ii.		
	iii.		
	iv.		
	v.		
	vi.		
2.			
	(a)		5 marks
	(b)		10 marks
		OR	
3.	(a)		5 marks
	(b)		10 marks
4.	(a)		5 marks
	(b)		10 marks
		OR	
5.	(a)		5 marks
	(b)		10 marks

Instruction to set the question paper.

7. Question number 1 has 6 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any five questions.
8. Question number 2 and 3 is from unit I.
9. Question number 4 and 5 is from unit II.
10. Student has to answer either question number 2 or 3, 4 or 5.
    Note: In case student answered both the question from the same unit in full or part, highest marks from any one choice has to be considered.

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF COMMERCE

5th & 6th Semestersw.e.f.

Academic Year 2022-23 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

RANI CHANNAMMA UNIVERSITY, BELAGAVI

Vidyasangama Bhootaramanhatti, Belagavi-591106

COURSE STRUCTURE

Bachelor of Commerce (CBCS)

Regular

(With Effect from Academic Year 2022-23)

	Course Code	Subject and Course	Teaching Hours	Examination Duration	End Semester Examination Marks	IA Marks	Total Marks	Total Credits
FIFTH SEMESTER								
Par-I	DSC 5.1	Management Accounting	4	3	80	20	100	4
	DSC 5.2	Income Tax-I	5	3	80	20	100	4
	DSC 5.3	Cost Accounting	5	3	80	20	100	4
	DSC 5.4	Indian Accounting Standards	4	3	80	20	100	4
Total			**18**	-	**320**	**80**	**400**	**16**
Group-I : ACCOUNTING AND TAXATION								
Part-II	DSCAT 5.5	Accounting for Managerial Decisions	5	3	80	20	100	4
	DSCAT 5.6	Goods and Service Tax	5	3	80	20	100	4
Total			**10**	-	**160**	**40**	**200**	**8**
Group – II ; FINANCE								
Part-II	DSCF 5.5	Corporate Valuation and Restructuring	5	3	80	20	100	4
	DSCF 5.6	Strategic Working Capital Management	5	3	80	20	100	4
Total			**10**	-	**160**	**40**	**200**	**8**
Group – III : MARKETING								
Part-II	DSCM 5.5	Fundamentals of Rural Marketing	5	3	80	20	100	4
	DSCM 5.6	Advertising and Salesmanship	5	3	80	20	100	4
Total			**10**	-	**160**	**40**	**200**	**8**
Group – IV : INSURANCE AND BANKING								
Part-II	DSCIB 5.5	Fundamentals of Life Insurance	5	3	80	20	100	4
	DSCIB 5.6	Principles of Banking	5	3	80	20	100	4

Total			**10**	**-**	**160**	**40**	**200**	**8**
Part-III	SEC 5.7	Community Services	2	-	-	50	50	1
Part-IV	SEC 5.8	E-Accounting	2	2	40	10	50	2
Total			**4**		**80**	**20**	**200**	**3**
Grand Total (Vth Semester)			**32**		**560**	**140**	**700**	**27**
SIXTH SEMESTER								
Part-I	DSC 6.1	Principles and Practice of Auditing	4	3	80	20	100	4
	DSC 6.2	Income Tax-II	5	3	80	20	100	4
	DSC 6.3	Costing Methods	5	3	80	20	100	4
	DSC 6.4	Indian Financial Institutions and Markets	4	3	80	20	100	4
Total			**18**	**-**	**320**	**80**	**400**	**16**
Group-I : ACCOUNTING AND TAXATION								
Part-II	DSC 6.5	Strategic Cost and Performance Management	5	3	80	20	100	4
	DSC 6.6	Corporate Tax Planning and Management	5	3	80	20	100	4
Total			**10**	**-**	**160**	**40**	**200**	**8**
Group – II : FINANCE								
Part-II	DSC 6.5	Risk Management and Derivatives	5	3	80	20	100	4
	DSC 6.6	International Financial Management	5	3	80	20	100	4
Total			**10**	**-**	**160**	**40**	**200**	**8**
Group – III : MARKETING								
Part-II	DSC 6.5	Services Marketing	5	3	80	20	100	4
	DSC 6.6	Consumer Behaviour	5	3	80	20	100	4
Total			**10**	**-**	**160**	**40**	**200**	**8**
Group – IV : INSURANCE AND BANKING								
Part-II	DSC 6.5	General Insurance Business	5	3	80	20	100	4
	DSC 6.6	Information Technology in Banking	5	3	80	20	100	4
Total			**10**	**-**	**160**	**40**	**200**	**8**
Part-	SEC 6.7	Enterprise Resource Planning	2	2	40	10	50	1

III	SEC 6.8	Internship Programme	2	-	40	10	50	2
Total			**4**		**80**	**20**	**100**	**3**
Grand Total (VIth Semester)			**32**		**560**	**140**	**700**	**27**

Note:

1. The B.Com curriculum is divided into four parts and contains different courses. The courses have been named after **AECC:** Ability Enhancement Compulsory Course; **DSC:** Discipline Specific Course; **SEC:** Skill Enhancement Course; and **CC&EC:** Co-curricular and Extra-curricular Activities
2. A practical is a 'hands–on class' which allows students to apply the theories learnt in the class room. One hour practical class is equal to one hour theory class and the class is managed by a single teacher. Practical classes may be conducted in the Business Lab or in Computer Lab or in the class room depending on the requirement. Experienced and Competent subject teachers may be allotted the practical workload.
3. IA marks for practical on skill development subject shall be awarded on the basis of practical records submitted by the student and on the basis of internal assessment tests.
4. Co-curricular and Extra-curricular Activities: A student shall opt for one of the following activities offered in the college, in all the four semesters of the undergraduate programme. The activity carries a credit each and will be internally assessed for 50 marks. The activities may include a) N.S.S. / N.C.C b) Sports and Games c) Physical Education or Activities related to Yoga d) Field studies / Industry Inplant Training e) Community work such as promotion of values of National Integration, Environment, Human rights and duties, Peace, Civic sense etc. f) A Small project work concerning the achievements of India in different fields g) Evolution of study groups seminar circles on Indian thoughts and ideas. h) Computer assisted web-based learning and e-library skills Evaluation of Co-curricular and Extra-curricular Activities shall be as per the procedure evolved by the university from time to time.
5. Student shall have to continue with the same elective groups opted in the Fifth Semester to complete the B.Com course.
6. The students of the sixth semester should undergo 10 days intensive training in any organisation for the Internship Program preferably after completion of fifth semester and before commencement of sixth semester examinations. After the training programme they should prepare and submit the report covering functions of the industry and its contributions towards society. The internship programme should carry 50 marks, out of which 40 marks for the brief report on the in-plant training and 10 marks for the internal assessment. The concerned records should be kept in the college department for at least six months, which should be produced to the university authorities as and when asked.

COURSE - DSC-5.1: MANAGEMENT ACCOUNTING

Weekly Teaching Hours: 4 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The objective of this course is to enable the students to understand the analysis and interpretation of financial statements with a view to prepare management reports for decision-making.

Units	Topics	No. of Periods
I	**INTRODUCTION TO MANAGEMENT ACCOUNTING:** Meaning and Definition – Objectives – Nature and Scope – Role of Management Accountant - Relationship between Financial Accounting and Management Accounting - Relationship between Cost Accounting and Management Accounting - advantages and limitations of Management Accounting - Management Reporting– Principles of Good Reporting System.	10
II	**ANALYSIS AND INTERPRETATION OF FINANCIAL STATEMENTS:** Meaning of Financial Statements - Features - Objectives - Advantages and Limitations - Types of Analysis - Methods of Financial Analysis - Problems on Comparative Statement analysis - Common Size Statement analysis and Trend Analysis as per Companies Act, 2013 Schedule III formats.	10
III	**CASH FLOW ANALYSIS:** Meaning and Definition of Cash Flow Statement - Concept of Cash and Cash Equivalents - Uses of Cash Flow Statement – Limitations of Cash Flow Statement– Differences between Cash Flow Statement and Fund Flow Statement – Provisions of Ind AS-7 - Procedure for preparation of Cash Flow Statement - Cash Flow from Operating Activities - Cash Flow from Investing Activities and Cash Flow from Financing Activities - Preparation of Cash Flow Statement according to Ind AS-7.	10
IV	**RATIO ANALYSIS:** Meaning and Definition of Ratio - Accounting Ratios and Ratio Analysis - Uses and Limitations - Classification of Ratios - Liquidity Ratios - Profitability Ratios and Solvency Ratios.	10
V	**MANAGEMENT REPORTING SYSTEM:** Meaning and definition of Management Reporting - Requisites of a good reporting system - Principles of good reporting - Kinds of reports - Drafting of reports by management accountant under different situations.	10

Reference Books:

1. Dr. S.N. Maheshwari, Management Accounting, Vikas Publishers.
2. S. C. Saxena, Management Accounting.
3. Dr. S.N. Goyal and Manmohan, Management Accounting.
4. B.S. Raman, Management Accounting, United publishers.
5. Sharma and Gupta, Management Accounting, Kalyani Publishers.
6. M Muniraju & K Ramachandra, Management Accounting, HPH.
7. PN Reddy & Appanaiah, Essentials of Management Accounting, HPH.
8. Dr. B Mariyappa , Management Accounting, HPH.
9. Sudhindra Bhat- Management Accounting

COURSE - DSC-5.2: INCOME TAX-I

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The objective of this course is to expose the students to the various provisions of Income Tax Act relating to computation of Income of individual assesses.

Units	Topics	No. of Periods
I	**INTRODUCTION TO INCOME TAX:** Brief History of Indian Income Tax - Legal Frame Work - Types of Taxes - Cannons of Taxation - Important Definitions: Assessment, Assessment Year, Previous Year (including Exceptions), Assessee, Person, Income, Casual Income, Gross Total Income - Scheme of taxation: Meaning and classification of Capital & Revenue - Income tax authorities: Powers & functions of CBDT - CIT & A.O.	10
II	**EXEMPTED INCOMES:** Introduction - Exempted Incomes u/s 10 applicable to Individual Assessees - Agricultural Income: Definition - Scheme of Partial Integration (Theory only)	6
III	**RESIDENTIAL STATUS AND INCIDENCE OF TAX:** Determination of Residential Status of Individual assessees - Incidence of Tax: Problems.	8
IV	**INCOME FROM SALARY:** Meaning and Definition – Basis of Charge – Advance Salary –Arrears of Salary – Allowances - Perquisites - Provident Fund - Profits in Lieu of Salary - Voluntary Retirement – Compensation - Retrenchment Compensation - Gratuity - Commutation of Pension - Encashment of Earned leave - Deductions from Salary u/s 16 - Problems on computation of taxable Income from Salary.	24
V	**INCOME FROM HOUSE PROPERTY:** Basis of Charge - Deemed Owners - Exempted House Property Income - Composite Rent - Annual Value - Determination of Annual Value - Treatment of Unrealized Rent - Loss due to Vacancy - Deductions from Annual Value u/s 24 - Problems on computation of taxable Income from House Property.	12

Reference Books:

1. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P)ltd.
3. Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication.
4. Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons.
5. Gaur & Narang: Income Tax.
6. 7 Lectures – Income Tax – I,VBH
7. Dr.V.Rajesh Kumar and Dr.R.K.Sreekantha: Income Tax – I, Vittani Publications.

COURSE - DSC-5.3: COST ACCOUNTING

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The objective of this course is to familiarize the students with the cost accounting concepts and their applicability in organizations for the purpose of decision making on cost reduction and efficiency improvement.

Units	Topics	No. of Periods
I	**INTRODUCTION TO COST ACCOUNTING:** Meaning – Nature – Objectives – Functions – Significance - Difference between Cost Accounting and Financial Accounting - Various Elements of Cost and Classification of Cost - Cost object - Cost unit - Cost driver - Use of IT in Cost Accounting; Limitations of Cost Accounting. **Cost Sheet:** Meaning and Cost heads in a Cost Sheet, Presentation of Cost Information in Cost Sheet Statement - Problems on Cost Sheet - Tenders and Quotations.	14
II	**MATERIALS COST:** Meaning - Importance and Types of Materials – Direct and Indirect Material; Materials procurement: Procedure for procurement of materials and documentation involved in procurement of materials -Material Storage and Records: Duties of Store keeper, Store records; Material Issues and Valuation: Procedure for material issues - Valuation of material issues - preparation of Stores Ledger Account -FIFO, LIFO, Simple Average Price and Weighted Average Price Methods - Problems. EOQ, ABC Analysis, FSN Inventory, VED Inventory, HML Inventory, Physical Control-KANBAN, JIT (concepts only).	12
III	**EMPLOYEE COST:** Meaning – Components - Classification and Importance of Employee (Labour) Cost in Organizations; Time keeping and Time booking - Idle time - Causes and Treatment of Normal and Abnormal Idle time – Overtime - Causes and Treatment (Theory Only); Causes and effects of Employee Turnover - Methods of Remuneration (Payment of Wages and Incentives) Problems on calculation of earnings under Time Rate (Straight Time Rate, Halsey and Rowan Methods) and Piece Rate Systems (Straight Piece Rate and Taylor's Differential Piece Rate only)	8
IV	**OVERHEADS:** Meaning and Classification of Overheads; Accounting and Control of Manufacturing Overheads: Estimation and Collection, Cost Allocation, Apportionment, Re-apportionment and Absorption of Manufacturing Overheads; Problems on Primary and Secondary distribution using Reciprocal Service Methods (Repeated Distribution Method and Simultaneous Equation Method); Absorption of Overheads: Meaning and Methods of Absorption of Overheads; Problems on Machine Hour Rate.	14
V	**RECONCILIATION OF COST AND FINANCIAL ACCOUNTS:** Reasons for differences in Profits under Financial and Cost Accounts; Procedure for Reconciliation - Ascertainment of Profits as per Financial Accounts and Cost Accounts and Reconciliation of Profits of both sets of Accounts - Preparation of Reconciliation Statement - Problems.	8

Reference Books:

1. Jain and Narang. Cost Accounting, Kalyani Publication House
2. M.N Arora Cost Accounting ,HPH
3. M.V. Shukla – Cost and Management Accounting
4. N.K. Prasad: Cost Accounting, Books Syndicate Pvt. Ltd.
5. Dr. V Rajeshkumar, Dr. R K Srikanth – Cost Accounting MHE India
6. Ratnam, Cost Accounting -Kitabmahal
7. P C Tulsian, Cost Accounting – MHE India
8. Nigam & Sharma: Cost Accounting, HPH
9. Dr. B. Maniyappa: Cost Accounting HPH
10. Khanna, Ahuja & Pandey – Practical Costing - S Chand & Co. Ltd.
11. B.S. Raman, Cost Accounting. United Publisher
12. V. A. Patil & B. S. Navi; Cost Accounting-I, S.Chand & Co. Ltd.
13. Ravi M. Kishore – Cost Management –Taxmann.

COURSE - DSC-5.4: INDIAN ACCOUNTING STANDARDS

Weekly Teaching Hours: 4 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The objective of the subject is to enable the students to understand the need and method of presentation of financial statements in accordance with IFRS, which makes the students to acquire knowledge about various IndAS.

Units	Topics	No. of Periods
I	**ACCOUNTING STANDARDS:** Meaning of Accounting Standards - Need for Accounting Standards - Significance or advantages of Accounting Standards - Limitations of Accounting Standards - Orientation to International Accounting Standards and International Financial Reporting Standards - Accounting Standards in Indian Context - Introduction to Indian Accounting Standards (Ind AS), Accounting Bodies. Procedure for issuing Accounting Standards by the Accounting Standards Board	8
II	**PREPARATION OF FINANCIAL STATEMENTS AS PER IND AS:** Framework for preparation of financial statements - Presentation of Financial Statements as per Ind AS 1: Statement of Profit and Loss - Balance Sheet - Statement of Changes in Equity - Statement of Cash Flows and Notes to Accounts; Problems on preparation of Statement of Profit & Loss and Balance Sheet.	10
III	**PROVISIONS UNDER ACCOUNTING STANDARDS FOR ITEMS APPEARING IN FINANCIAL STATEMENTS:** Revenue Recognition (Ind. AS 18); Valuation of Inventory (Ind AS 2); Property - Plant and Equipment - including Depreciation (Ind AS 16); Borrowing Cost (Ind AS 23); Intangible Assets (Ind AS 38); Provisions (Ind AS 37); Earnings per Share (Ind AS 33).	12
IV	**PROVISIONS UNDER ACCOUNTING STANDARDS FOR ITEMS THAT DO NOT APPEAR IN FINANCIAL STATEMENTS:** Segment Reporting (Ind. AS 108), Related Party Disclosures (Ind AS 24), Events occurring after Balance Sheet Date (Ind. AS 10), Interim Financial Reporting (Ind AS 34)	10
V	**GROUPING OF ACCOUNTS:** Meaning of Group - Holding and Subsidiary Company - Purpose and benefits of preparing Consolidated Financial Statements - Requirements of Companies Act, 2013 in respect of Consolidation of Financial Statements - Components of Consolidated Financial Statements - Calculation of Non controlling Interest - Calculation of Goodwill or Capital Reserve on Consolidation. Accounting treatment for inter-company debts - unrealized profit on stock.	10

Reference Books:

1 IFRS - Student Study Guide - ISDC
2 IFRS for India, Dr. A. L. Saini, Snow White Publications
3 Roadmap to IFRS and Indian Accounting Standards by CA Shibarama Tripathy
4 IFRS Explained - A Guide to IFRS by BPP Learning Media
5 IFRS Concepts and Applications by Kamal Garg, Bharath Law House Private Limited
6 IFRS: A Quick Reference Guide by Robert J Kirk, Elsevier Ltd.
7 IFRS, Barry Larking, Taxman Publications
8 Anif & Mukherjee, Corporate Accounting, Mc Graw Hill Publishers.
9 Anil Kumar, V. Rajesh Kumar and B. Mariyappa, Indian Accounting Standards, Himalaya Publishing House
10 Miriyala, Ravikanth, Indian Accounting Standards Made Easy, Commercial Law Publishers.
11 Study material of the Institute of Chartered Accountants of India (ICAI), The Institute of Cost and Management Accountants of India (ICMAI), and The Institute of Company Secretaries of India (ICSI) – [Freely downloadable from the websites of respective institutions].

COURSE – DSCAT-5.5: ACCOUNTING FOR MANAGERIAL DECISIONS

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: To develop among learners, an understanding of the various tools and techniques for controlling and reducing cost, and enable effective decision making.

Units	Topics	No. of Periods
I	**COST CONTROL AND COST REDUCTION:** Cost Management - Components of Cost Management - Cost Control and Cost Reduction - Areas of Cost Control and Cost Reduction - Overview of Tools and Techniques for Cost Control and Cost Reduction.	10
II	**MARGINAL COSTING:** Basic concepts of marginal costing - Contribution Margin - Break-even Analysis - Break-even and profit-volume charts - Contribution to Sales Ratio - Margin of Safety - Angle of Incidence - Cost-volume-profit - Multi-product break-even analysis - Key (Limiting) factor.	12
III	**SHORT-TERM DECISION MAKING:** Determination of cost / price of a product / service under marginal costing method - Determination of cost of finished goods and work-in-progress - Comparison of marginal costing with absorption costing methods and reconciliation - Short-term decision making - Make or Buy - Profitable Product Mix - Addition of a new product or line - Discontinuing an existing product or line.	12
IV	**STANDARD COSTING:** Setting up Standards - Types of Standards - Standard Costing as a method of performance measurement - Calculation and reconciliation of cost variances - Material Cost Variance - Employee Cost Variance - Variable Overhead Variance and Fixed Overhead Variance.	12
V	**BUDGETARY CONTROL:** Meaning of Budget - Essentials of Budget - Budget Manual - Budget Setting Process - Preparation of Budget and Monitoring Procedures - Use of Budget in Planning and Control - Flexible Budget - Preparation of Functional Budget for operating and non-operating functions - Cash budget - Master Budget - Introduction to principal / key budget factor - Zero Based Budgeting (ZBB) - Performance Budget - Control Ratios and Budget Variances.	14

Reference Books:

1. V Rajesh Kumar and R K Sreekantha, "Cost Management", MHE India.
2. Guptha, Sachin, Cost and Management Accounting, Taxman Publications.
3. Keswani, Sunil, Cost and Management Accounting, Bharat Law House Pvt. Ltd.
4. Kalra, Ashish, Cost and Management Accounting, IGP Publications.
5. Study material of the Institute of Chartered Accountants of India (ICAI), The Institute of Cost and Management Accountants of India (ICMAI), and The Institute of Company Secretaries of India (ICSI) – [Freely downloadable from the websites of respective institutions]

COURSE – DSCAT - 5.6: GOODS AND SERVICE TAX

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: To impart students with knowledge of tax, types and their modalities, to give insight on the taxes influencing a corporate entity – both direct and indirect, and to orient the students on the procedures and formalities to be adhered, with regard to tax matters.

Units	Topics	No. of Periods
I	**INTRODUCTION TO GST:** Meaning of Tax and Types - Differences between Direct and Indirect Taxation - Brief History of Indirect Taxation in India - Structure of Indian Taxation - Rationale for transitions to GST.	10
II	**GST FRAMEWORK:** Introduction to Goods and Services Tax - Constitutional Framework - Orientation to CGST, SGST and IGST - Meaning and Scope of Supply - Types of Supply - Exemptions from GST - GST terminologies and definitions.	10
III	**TIME, PLACE AND VALUE OF SUPPLY:** Time of Supply in case of Goods and Services - Problems on ascertaining Time of Supply - Place of Supply in case of Goods and Services (both General and Specific Services) - Problems on Identification of Place of Supply. Value of Supply - Meaning - Inclusions and Exclusions - Problems on calculation of 'Value of Supply'	12
IV	**GST LIABILITY AND INPUT TAX CREDIT:** Rates of GST - Classification of Goods and Services and Rates based on classification - Problems on computation of GST Liability - Input Tax Credit – Meaning - Process for availing Input Tax Credit - Problems on calculation of Input Tax Credit and Net GST Liability.	14
V	**GST PROCEDURES:** Registration under GST - Tax Invoice - Levy and Collection of GST - Composition Scheme - Due dates for Payment of GST - Accounting record for GST - Features of GST in Tally Package - GST Returns - Types of Returns - Monthly Return - Annual Return and Final Return - Due dates for filing of returns. Final Assessment - Accounts and Audit under GST	14

Reference Books:

1. V Rajesh Kumar and Mahadev, "Indirect Taxes", McGraw Hill Education.
2. Datey, V S, "Indirect Taxes", Taxmann Publications.
3. Hiregange et al, "Indirect Taxe", Puliani and Puliani.
4. Haldia, Arpit, "GST Made Easy", Taxmann Publications.
5. Chaudhary, Dalmia, Girdharwal, "GST – A Practical Approach", Taxmann Publications.
6. Garg, Kamal, "Understanding GST", Bharat Publications.
7. Hiregange, Jain and Naik, "Students Handbook on GST", Puliani and Puliani.

COURSE - DSCF-5.5: CORPORATE VALUATION AND RESTRUCTURING

Weekly Teaching Hours: 5
Credits: 3

Examination Duration: 3 Hours
Maximum Marks: 100

Objective: To provide knowledge on valuation of business enterprises and make students to understand the various models of value-based management and give insight on various forms of corporate restructuring

Units	Topics	No. of Periods
I	**INTRODUCTION AND FUNDAMENTAL TOOLS OF FINANCE:** Meaning of Financial Management - Goals of Financial Management - Analysis of Financial Statements - DU PONT ANALYSIS; Time Value of Money - Compounding, Discounting, Annuity and Perpetuity; Weighted Average Cost of Capital - CAPM based calculation; Beta - Un-levering and Re-levering.	8
II	**CORPORATE VALUATION:** Valuation of Firm and Valuation of Equity - Net Assets Method - Earnings Capitalization Method - Relative Valuation - Chop Shop Method; Discounted Cash Flow (DCF) Method - Adjusted Present Value (APV) Method; ICAI Valuation Standards.	20
III	**VALUE BASED MANAGEMENT:** Marakon Approach - Alcar Approach – Mc-Kinsey Approach - Stern-Stewart Approach (EVA Method) and BCG Approach - Performance Measurement and Analysis - Balanced Scorecard.	10
IV	**CORPORATE RESTRUCTURING:** Corporate Restructuring - Forms of Corporate Restructuring - Asset Restructuring – Securitization - Sale and Lease; Financial Restructuring - Designing and re-designing capital structure; Restructuring of companies incurring continuous losses - restructuring in the event of change in law - Buy-back of shares.	8
V	**BUSINESS COMBINATIONS:** Mergers and Acquisitions - Meaning and differences - Financing of merger (deciding between merger and acquisition) - Determining share Exchange ratio: net asset value, EPS and market price approach - Range and Terms - Feasibility of Mergers and Acquisitions.	10

Reference Books:

1. V. Rajesh Kumar, Strategic Financial Management, Mc Graw Hill Education.
2. Prasanna Chandra, Corporate Valuation and Value Creation, Mc Graw Hill Education.
3. Pattabhuram and Bala, Strategic Financial Management, Snow White Publications.
4. Sridhar A N, Strategic Financial Management, Shroff Publishers and Distributors.
5. Damodaran, Aswath, Damodaran on Valuation, John Wiley.
6. Kishore, Ravi M, Strategic Financial Management, Taxman Publications.
7. Gupta J B, Strategic Financial Management, Taxman Publications.
8. Copeland, Tom, Koller, Tim and Murrin, Jack, "Valuation – Measuring and Managing the Value of Companies", McKinsey Quarterly, Wiley Finance.
9. Weaver, Samuel and Weston, Fred, "Strategic Corporate Finance" South-Western CENGAGE Learning.
10. Allen, David, "An Introduction to Strategic Financial Management – The Key to Long Term Profitability",
11. The Chartered Institute of Management Accountants, Kogan Page www.valuebasedmanagement.net
12. Study material of the Institute of Chartered Accountants of India (ICAI), The Institute of Cost and Management Accountants of India (ICMAI), and The Institute of Company Secretaries of India (ICSI) – [Freely downloadable from the websites of respective institutions]

COURSE - DSCF-5.6: STRATEGIC WORKING CAPITAL MANAGEMENT

Weekly Teaching Hours: 5
Credits: 3

Examination Duration: 3 Hours
Maximum Marks: 100

Objective: To orient the students on the estimation of working capital requirements of various types of entities and provide knowledge on managing the components of working capital

Units	Topics	No. of Periods
I	**INTRODUCTION AND ESTIMATION:** Working Capital - meaning and types; Meaning of Working Capital Management - Meaning and Scope - Estimation of Working Capital Requirement - Need for adequate working capital - Factors influencing working capital requirements - Methods for estimation of Working Capital requirement - Regression method - Operating or cash cycle method and Policy method - Problems on estimation of working capital.	10
II	**FINANCING OF WORKING CAPITAL:** Sources of Working Capital - Trade credit - Loans from banks and financial institutions (Maximum Permissible Bank Finance - concept and problems) - Loan from indigenous bankers - Advances from customers - Accrued expenses - Commercial papers - Debt securitization -Factoring of Receivables and Forfeiting; Factors influencing choice of short-term source of funds - Problems on calculation of cost of each source - Approaches to working capital financing - Matching Approach - Conservative Approach and Aggressive Approach - Problems on approaches to working capital financing.	8
III	**MANAGEMENT OF INVENTORY:** Meaning of Inventory - Inventory Control - objectives - advantages; costs associated with inventory control - scope or areas of inventory control - Procurement of Material - Make or Buy Decision - Purchasing Process, Vendor Selection - Ordering Quantity and Frequency (EOQ) - Manufacturing Quantity and Frequency (EMQ) - Documents relating to procurement of materials - Problems on calculation of EOQ and EMQ; Stores Control - Classes or Types of Stores - Method of Storing - Stock Levels - Classification and codification of material - stock verification - Duties and responsibilities of Stores Manager - Records and documents relating to Stores - Problems on calculation of Stock Levels - Management of Issues - Methods of pricing issues - Ratios relevant to Inventory Control - Problems on Issue of Material.	10
IV	**MANAGEMENT OF RECEIVABLES AND PAYABLES:** Objectives or Purpose of Receivables Management - Costs associated with Receivables, Scope of Receivables Management - Credit Standards - Credit Period - Cash Discount and Collection Efforts - Tools and Techniques for Managing Receivables - Credit Analysis - Risk Classification - Probability Analysis or Decision Tree Analysis - Cost-	20

	benefit Analysis - Ageing schedule - Collection Matrix and Factoring - Problems. **Management of payables:** Introduction - Costs associated with Trade credit - Scope of management of payables - whether to avail credit facility from suppliers or not? Whether to seek extension of credit period or not?, whether to avail discount offer or not?. Problems.	
V	**TREASURY AND CASH MANAGEMENT:** Motives for holding Cash – Transaction - Precautionary and Speculative; Objectives of Cash Management - Costs associated with Cash - Scope of Cash Management - Estimation of Cash Requirement - Managing Cash Inflows - Managing Cash Outflows - Maintenance of Optimal / Ideal Cash Balance: Tools or Techniques for Effective Cash Management - Cash Budget - Invoicing Policy - Concentration Banking - Lock-box System - Playing the Float - Baumol's Model - Miller-Orr Model - Problems - Developments in Cash Management - Electronic Fund Transfer - Virtual Banking - Zero Balance Account - Petty Cash Imprest System etc	12

Reference Books:

1. Prasanna Chandra, Financial Management – Theory and Practice, Mc Graw Hill Education
2. I M Pandey, Financial Management, Vikas Publications
3. Khan M Y and Jain P K, Financial Management – Text, Problems and Cases, Mc Graw Hill Education
4. V Rajesh Kumar, Financial Management, Mc Graw Hill Education
5. Damodaran, Aswath, Corporate Finance , John Wiley & Sons Inc
6. Damodaran, Aswath, Applied Corporate Finance, John Wiley & Sons Inc
7. Kishore, Ravi M, Financial Management – Problems and Solutions, Taxman Publications
8. Bodhanwala, Ruzbeh, Financial Management using Excel Spreadsheet, Taxman Publications
9. Bahal, Mohit, "Practical Aspects of Financial Management", Suchita Prakashan (P) Ltd.
10. Sharma, Dhiraj, "Working Capital Management – A conceptual Approach", Himalaya Publishing House
11. Study material of the Institute of Chartered Accountants of India (ICAI), The Institute of Cost and Management Accountants of India (ICMAI), and The Institute of Company Secretaries of India (ICSI) – [Freely downloadable from the websites of respective institutions]

COURSE - DSCM-5.5: FUNDAMENTALS OF RURAL MARKETING

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: To create awareness about the process of marketing in the rural area and help to understand the working of rural marketing institutions with different issues.

Units	Topics	No. of Periods
I	**INTRODUCTION TO RURAL MARKETING:** Meaning, definition, concept, nature, scope, significance of rural marketing - factors contributing to growth of rural markets - components and classification of rural markets - rural market vs urban market - electronic rural market.	12
II	**AGRICULTURAL MARKETING:** Meaning, definition, concept, nature and types of agriculture produce - concept and types of agricultural markets - marketing channels - methods of sales - market functions.	12
III	**MARKETING MIX FOR RURAL MARKETING:** Product planning for rural products - pricing methods and strategies for products of rural markets - products management in rural markets.	12
IV	**CHANNELS OF DISTRIBUTION:** Distribution pattern and methods in rural markets - special characteristics of rural channels - channel management in rural markets - managing physical distribution in rural markets - storage warehousing and transportation.	12
V	**ISSUES IN RURAL MARKETING:** Rural consumer behavior – features - factors influencing lifestyle of rural consumer - FMCG sector in rural India - concept and classification of consumer goods - marketing channels for FMCG - fast growing FMCG - marketing of consumer durables - role of advertising.	12

Reference Books:

1. Badi R.V. Badi N.V: Rural Marketing, Himalaya Publishing House-2010
2. Acharya S.S Agarawal N.L: Agriculture Marketing In India, Oxford and IBH Publishing Company Pvt. Ltd
3. Marketing Management, planning, implementation and control – Rama Swamy and NamaKumar, Mcmillan
4. Marketing management by C.N Sontakki, Kalyani Publishers

COURSE - DSCM-5.6: ADVERTISING AND SALESMANSHIP

Weekly Teaching Hours: 5
Credits: 3

Examination Duration: 3 Hours
Maximum Marks: 100

Objective: To familiarize the students regarding advertising and various dimensions of salesmanship and career opportunities available in these fields.

Units	Topics	No. of Periods
I	**INTRODUCTION TO ADVERTISING:** Definition of Advertising – History of Advertising - Roles of Advertising – Functions of Advertising – Key players in Advertising – Types of Advertising – Steps in development of Advertising.	10
II	**ADVERTISING DESIGN:** Advertising Design - Advertising Theory - Types of Advertising Appeals - Structure of an Advertisement - Message Strategies - Cognitive strategies - Exceptional Strategies - Creating an Advertising - Advertising Effectiveness.	10
III	**COPYWRITING:** Meaning and definition of Copywriting – The Copywriter – Copywriting for Print – Copywriting guidelines – Radio of Copywriting – TV Copywriting – Writing for the Web – Tips for writing good web content.	8
IV	**SALESMANSHIP:** Meaning and Definition of Salesmanship - Features of Salesmanship - Scope of Salesmanship - Modern Concept of Salesmanship - Utility of Salesmanship - Elements of Salesmanship - Art or Science Salesmanship – Professional Qualities of Salesman - Psychology of Salesmanship; Attracting Attention - Awakening Interest - Creating Desire and Action.	12
V	**PROCESS OF SELLING:** Stages in Process of Selling – (i) Pre-Sale Preparations (ii) Prospecting (iii) Pre-Approach (iv) Approach (v) Sales Presentation (vi) Handling of Objections (vii) Close (viii) After Sales Follow-up	10

Reference Books:

1. Dawar S.R.--Salesmanship and Advertisement, S. Chand
2. Cummins. J-Sales Promotion—Prentice Hall India
3. Birth and Boyd-New patterns in Sales Management-Mc Graw Hill
4. Debbie Gillialand-Marketing—Mc Graw Hill.
5. Marketing Management Philip Kotler Pearson Publication.
6. Marketing Management RajanSaxena McGraw Hill Education.
7. Principles of Marketing Philip Kotler Pearson Publication

COURSE - DSCIB-5.5: FUNDAMENTALS OF LIFE INSURANCE

Weekly Teaching Hours: 3
Credits: 3

Examination Duration: 3 Hours
Maximum Marks: 100

Objective: To acquaint students about the principles of managing and administration of Insurance Business.

Units	Topics	No. of Periods
I	**INTRODUCTION TO LIFE INSURANCE:** Introduction to Life Insurance - Features of Life Insurance, Procedure of taking a Life Insurance Policy- Principles of Life Insurance - Kinds of Life Insurance Policies, Whole Life policies, Endowment policies and Term policies, Annuities - Annuities - Life Insurance Underwriting - Need for Selection - Factors affecting Rate of Mortality - Sources of Data - Concept of Extra Mortality - Numerical Methods of Undertaking and Occupational Hazards.	10
II	**POLICY CONDITIONS AND PREMIUM:** **Policy Conditions:** Conditions relating to commencement of Risk, Riders, Conditions of Premium, Conditions relating to continuation of policies, Nomination and Assignment, Paidup Value, Surrender Value. **Insurance Premium:** Types of Premium, Factors affecting the premium of Life Insurance policies, Methods of premium computation, Natural Premium Plan, Level Premium Plan, Mortality Table, Sources of Mortality information and construction of mortality tables. **Valuation, Surplus and Bonus:** Objects of valuation, Sources of surplus, Bonus and its kinds.	12
III	**LEGAL ASPECTS OF LIFE INSURANCE:** Legal Aspects of Insurance: - Indian Contract Act, Special Features of Insurance Contract, Insurance Laws, Insurance Act, LIC Act, and IRDA Act.	14
IV	**CLAIM MANAGEMENT AND RE-INSURANCE:** Claim Management - Claim Settlement - Procedure for settlement of maturity claims - Procedure for death claims - Legal Framework - Third Party Administration - Insurance Ombudsman - Consumer Protection Act.	12
V	**RISK MANAGEMENT AND INSURANCE:** Basic concept of risk, Types of business risk, Assessment and transfer, Basic principles of utmost good faith, Indemnity, Economic function, Proximate cause, Subrogation and contribution, Risk and return relationship, Need for coordination, Power, functions and Role of IRDA, Online Insurance.	12

Reference Books:

1. Annie Stephen L, HPH
2. P. Periya Swamy, Principles and Practice of Life Insurance
3. Raman B, Your Life Insurance, Hand Book
4. William C. Arthur, Risk Management and Insurance
5. G. Krishna Swamy, A Text book on Principles and Practices of Life Insurance
6. Gopal Krishnan, Liability Insurance
7. Aramvalarthan, Risk Management I.K. Inti
8. Mishra M.N, Insurance Principles and Practice
9. Agarwal, O.P., *Banking and Insurance*, Himalaya Publishing House
10. Arthur, C. and C. William Jr., *Risk Management and Insurance*, McGraw Hill

COURSE - DSCIB-5.6: PRINCIPLES OF BANKING

Weekly Teaching Hours: 5
Credits: 3

Examination Duration: 3 Hours
Maximum Marks: 100

Objective of the Course: To acquaint the students with the fundamentals of banking and understand the real time banking practices.

Units	Topics	No. of Periods
I	**INTRODUCTION TO BANKING:** Origin of banking - definition - banker and customer relationship - General and special types of customers -Types of deposits - Origin and growth of commercial banks in India - Financial Services offered by banks - Changing role of commercial banks - Types of banks.	12
II	**BANKER AND CUSTOMER:** Introduction - Meaning and Definition of Banker and Customer - General and Special relationship between Banker and Customer - Special types of Customers - Minor, Joint Account, Partnership, Joint Stock Company, Trustee, Clubs and Associations.	10
III	**BANKING OPERATIONS:** Collecting Banker – Meaning, Duties and Responsibilities of Collecting Banker, Holder for Value, Holder in Due Course, Statutory Protection to Collecting Banker; Paying Banker – Meaning, Precautions, Statutory protection to the Paying Banker, New Technology in Banking, e-Services, Debit and Credit Cards, Internet Banking, ATM, Electronic Fund Transfer, MICR, RTGS, NEFT, DEMAT, e– Banking, Core Banking and Mobile Banking.	14
IV	**TYPES OF ACCOUNTS AND LENDING OF FUND:** Savings Bank Account - Current Account and Fixed Deposit Account – Features - Procedure for opening these Accounts; Lending of Funds - Principles of Bank Lending - Secured vs. unsecured advances - types of Loans, Overdrafts, Discounting of Bills, Cash Credit - Advances against various securities.	12
V	**NEGOTIABLE INSTRUMENTS:** Introduction - Meaning and Definition – Features - Kinds of Negotiable Instruments - Meaning, Definition and Features of Promissory Notes - Bills of Exchange and Cheques; Crossing of Cheques - Types of Crossing - Material Alteration - Endorsements - Meaning, Essentials and Kinds of Endorsement.	12

Reference Books:

1. Gordon and Natarajan, Banking Theory Law and Practice, HPH
2. S. P Srivastava, Banking Theory and Practice, Anmol Publications
3. Tandan M.L, Banking Law and Practice in India, Indian Law House
4. Sheldon H.P, Practice and Law of Banking
5. K. Venkataramana, Banking Operations, SHBP
6. Kothari N. M, Law and Practice of Banking
7. Neelam C Gulati, Principles of Banking Management
8. Maheshwari. S.N, Banking Law and Practice, Vikas Publication
9. Shekar. K.C, Banking Theory Law and Practice, Vikas Publication
10. Dr. Alice Mani, Banking Law and Operation, SBH
11. Satyadevi, C., *Financial Services Banking and Insurance*, S.Chand
12. Suneja, H.R., *Practical and Law of Banking*, Himalya Publishing House
13. Chabra, T.N., *Elements of Banking Law*, Dhanpat Rai and Sons
14. Saxena, G.S; *Legal Aspects of Banking Operations*, Sultan Chand and Sons
15. Varshney, P.N., *Banking Law and Practice*, Sultan Chand and Sons

COURSE - SEC-5.7: COMMUNITY SERVICES

Weekly Teaching Hours: 2

Credits: 1 Maximum Marks: 50

Objective: To enable the students' to learn and develop the skills by involving in the community services.

After the completion of the IV Semester, students should be assigned COMMUNITY SERVICE and it shall be monitored by Mentors. Allocation of the students shall be made to each Mentor. In addition to Commerce faculty, faculty from Languages including English, Additional Subjects, Librarian, and Physical Education Director shall also be appointed as Mentors. The Community Service may be carried out in any type of Non-profit Organisations such as Panchayat Raj Institutions, Public Hospitals, Old Age Homes, Orphanage Houses, Sports Clubs, Women's organisations, Neighbourhood organisations, Religious and Educational organisations, Red Cross, Lions Club, Rotary Clubs, Youth Service Associations, or in any other social service organisation. Minimum of 10 days field service must be ensured. The Report on Community Service shall be submitted 10 days before the commencement of Vth Semester examinations. The Report shall consist of Organisation's Profile, Nature of Service and Experience of the Student, along with Certificate from the Organisation in about 25 pages. The related Marks & Credit will be awarded based on the report.

COURSE - SEC-5.8: E-ACCOUNTING

Weekly Teaching Hours: 2 | Examination Duration: 2 Hours

Credits: 2 | Maximum Marks: 50

Objective: The objective of the subject is to familiarize the students with Tally.

Units	Topics	No. of Periods
I	**GETTING STARTED WITH TALLY:** Meaning of Tally software – Features - Advantages – Required Hardware - Preparation for Installation of Tally Software – Installation - Items on Tally screen: Menu Options, Creating a New Company, Basic Currency Information, Other Information, Company Features and Inventory Features.	10
II	**CONFIGURING TALLY:** General Configuration, Numerical Symbols, Accounts/Inventory Information – Master Configuration – Voucher Entry Configuration. Working in Tally: Groups - Ledgers, Writing Voucher, Different types of Voucher - Voucher Entry - Problem on Voucher Entry -Trial Balance - Accounts Books, Cash Book - Bank Books, Ledger Accounts - Group Summary - Sales Register and Purchase Register - Journal Register Statement of Accounts & Balance Sheet	10
III	**REPORTS IN TALLY:** Generating Basic Reports in Tally – Financial Statements – Accounting Books and Registers – Inventory Books and Registers – Exception Reports – Printing Reports –Types of Printing Configuration of Options - Printing Format.	10

Reference Books:

1. Raydu – E Commerce, HPH
2. Suman. M – E Commerce & Accounting –HPH
3. Kalakota Ravi and A. B. Whinston: Frontiers of Electronic Commerce, Addison Wesley
4. Watson R T: Electronic Commerce – the strategic perspective. The Dryden press
5. Amrutha Gowry & Soundrajana, E – Business & Accounting, SHBP.
6. Agarwala K. N & Deeksha Ararvala: Business on the Net – Bridge to the online store front, Macmillan, N. Delhi
7. P. Diwan / S. Sharma – E –Commerce
8. Srivatsava: E.R.P, I.K. International Publishers
9. Diwan, Prag and Sunil Sharma, Electronic Commerce – A manager guide to E-business, Vanity Books International.
10. Tally for Enterprise Solutions.

COURSE – DSC-6.1: PRINCIPLES AND PRACTICE OF AUDITING

Weekly Teaching Hours: 4
Credits: 3

Examination Duration: 3 Hours
Maximum Marks: 100

Objective: This course aims at imparting knowledge about the principles and modern auditing techniques and their applications

Unit	Topics	No. of periods
I	**INTRODUCTION TO AUDITING:** Meaning, definition objectives, difference between accountancy and auditing. Types of audit. Preparation before commencement of new audit- Audit note book, Working papers, audit programme, recent trends in auditing. Nature and significance of GST Audit, cost audit, tax audit and Management audit.	10
II	**PLANNING AND INTERNAL CHECK:** Auditor- Meaning, Definition, Qualification, Qualities and duties of Auditor. Internal control- Meaning, definition, Internal check- Meaning, objectives and fundamental principles. Internal check as regard- wage payment, cash sales, cash purchase. Internal Audit- Meaning, Advantages and disadvantages, difference between internal check and internal audit.	10
III	**VOUCHING:** Meaning, Definition, Importance, Routine checking and vouching- Voucher- Types of vouchers, vouching of receipts- Cash sales receipts from debtors, Proceeds of sale of investments. Vouching of payment- cash purchase, Payment to creditors. Revenue Expenditure.	10
IV	**VERIFICATION AND VALUATION OF ASSETS AND LIABILITY:** Meaning and objectives of verification and valuation of Assets-Land and Building, Plant and Machinery, Goodwill, investment, stock in trade. Liabilities-Bills Payable, Sundry Creditors, Contingent Liability. Errors in Audit.	10
V	**REPORT WRITING:** Meaning, Structure, Types of Audit Reports – Qualified and Clean Audit Report, routine reports and special reports, Professional Ethics of Auditors.	10

Reference Books:

1. R.G.Saxena: Practical Auditing, Himalaya Publications
2. Kamal Gupta: Contemporary Auditing
3. Spicer & Pegler: Practical auditing
4. Jagdish Prakash: Principles and Practices of Auditing
5. Ghatalia: Principles of Auditing
6. N.D.Kapoor: Auditing
7. T.N.Tandon: Practical Auditing
8. Dinkar Pagare: Auditing
9. Kamal Gupta and Ashok Gupta: Fundamentals of Auditing
10. Kumar Sharma: Auditing Principles & Practice, PHI
11. B. S. Navi: Principles and Practice of Auditing, R.Chand and Co.

COURSE - DSC-6.2: INCOME TAX-II

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The Objective of this course is to make the students understand the computation of Taxable Income and Tax Liability of individual assessees.

Units	Topics	No. of Periods
I	**PROFITS AND GAINS FROM BUSINESS OR PROFESSION:** Meaning and Definition of Business - Profession - Vocation - Expenses Expressly Allowed - Allowable Losses – Expenses Expressly Disallowed – Expenses Allowed on Payment Basis – Problems on Computing taxable Business Incomes of Proprietary Concerns and Problems on Computing Income from Profession - Chartered Accountants - Advocates and Medical Practitioners.	16
II	**CAPITAL GAINS:** Basis of Charge - Capital Assets - Transfer of Capital Assets - Computation of Taxable Capital Gains - Exemptions U/S 54, 54B, 54D, 54EC, 54F.	14
III	**INCOME FROM OTHER SOURCES:** Taxable Income under the head Other Sources - Dividend Income - tax treatment for dividends - Interest on Securities - Rules for Grossing up - Bond Washing Transactions - Problems on Computing Taxable Income from Other Sources.	8
IV	**SET-OFF AND CARRY FORWARD OF LOSSES AND DEDUCTIONS FROM GROSS TOTAL INCOME:** Meaning - Provision for Set-off & Carry forward of losses (Theory only) - Deductions u/s: 80C, 80CCC, 80CCD, 80D, 80E, 80G, 80GG, 80GGC, 80QQB, 80TTA, 80TTB, 80U.	8
V	**ASSESSMENT OF INDIVIDUALS** Computation of Total Income and Tax Liability of an Individual Assessee (In case of income from salary & house property, computed income shall be taken)	10

Reference Books:

1. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) Ltd.
3. Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons.
4. Gaur & Narang: Income Tax, Kalyani publishers
5. B.B. Lal: Income Tax, Central Sales Tax Law & Practice, Konark Publisher (P) Ltd.
6. Dr. H.C Mehrothra: Income Tax, Sahitya Bhavan.

COURSE - DSC-6.3: COSTING METHODS

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The learning objective is to familiarize the students on the use of cost accounting methods in different industries.

Units	Topics	No. of Periods
I	**JOB COSTING AND BATCH COSTING:** **Job Costing**- Meaning - prerequisites – job costing procedure - Features – objectives - applications - advantages and disadvantages of Job costing - Job cost sheet - simple problems. **Batch Costing:** Meaning - difference between job and batch costing - process of accumulation and calculation - determination of EBQ - problems	10
II	**CONTRACT COSTING:** Meaning - features of contract costing - applications of contract costing - similarities and dissimilarities between job costing and contract costing - recording of contract costs - meaning of terms used in contract costing - treatment of profit on incomplete contracts - Problems.	10
III	**PROCESS COSTING:** Meaning - features and applications of Process Costing - comparison between Job Costing and Process Costing - advantages and disadvantages of process costing - treatment of process losses and gains in cost accounts - preparation of process accounts - problems	10
IV	**SERVICE COSTING:** Introduction to service costing - Application of Service costing - Service costing v/s product costing - Cost units for different service sectors - Service cost statement - Determination of costs for different service sectors - Transport services - hospitals and educational institutions - problems on preparation of service cost - statements for these service sectors.	16
V	**ACTIVITY BASED COSTING:** Introduction - Weakness of conventional costing system - concept of ABC - Characteristics of ABC - Kaplan and Cooper's Approach - cost drivers and cost pools - allocation of overheads under ABC - Steps in the implementation of ABC - Benefits from adaptation of ABC system - difficulties faced by the industries in the successful implementation of ABC – Simple problems on ABC	10

Reference Books:

1. M.N Arora, Cost Accounting. HPH
2. Nigam and Sharma, Advanced Costing
3. B.S. Raman, Cost Accounting, United Publishers
4. K.S Thakur- Cost Accounting, Excel Books
5. B. Mariyappa, Costing Methods HPH.
6. N.K Prasad, Costing, Book Syndicate Pvt. Limited,
7. Jain & Narang, Cost Accounting, Kalyani Publishers
8. Ravi M. Kishore – Cost Management, Taxmann
9. Anthony R. N. – Management Accounting Principles
10. S. Mukherjee & A. P. Roy chowdhry – Advanced Cost and Management Accountancy
11. V. A. Patil & B. S. Navi; Costing Methods and Techniques-II, R. Chand & Co.
12. Tulsian P.C. & Tulsian Bharat, S. Chand Publishing

COURSE - DSC-6.4: INDIAN FINANCIAL INSTITUTIONS AND MARKETS

Weekly Teaching Hours: 4 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The objective of this course is to help students to understand the conceptual framework of Indian financial Institutions and markets and their operations.

Units	Topics	No. of Periods
I	**INTRODUCTION TO INDIAN FINANCIAL SYSTEM:** Meaning – Functions – Structure - Role and Importance of System - Components viz. Regulators - Financial Assets - Financial Institutions - Financial Markets - Financial Services - Challenges to the System - Ethical Practices in Finance Field.	8
II	**REGULATORY INSTITUTIONS:** Reserve Bank of India - Objectives, Functions & Monetary Policy - Credit Control Methods - Securities Exchange Board of India - Objectives, Functions and Powers - IEPF and Its creation and Utilization.	12
III	**FINANCIAL INSTITUTIONS:** Introduction -Types of Banking and Non-Banking Financial Institutions - Constitution, objectives & functions of IDBI, SFCs, SIDCs, LIC, EXIM Bank - Regulatory Institutions - RBI and SEBI: Role and Functions in Regulating Financial Markets in India - Narasimhan Committee Report 1991 and 1998	10
IV	**FINANCIAL MARKETS:** Introduction-Meaning - Characteristics, Functions, Significance and recent developments - Types of Financial Market - Money Market and Capital Market - New Issue market and Secondary market - Capital Market securities - Money Market Instruments - Government securities (Gilt-edged market) - Stock exchange – Functions - Listing of securities - Formalities in stock exchange - Stock Price Indices (Nifty, Sensex, CNX 500, BSE 100) - Introduction to FOREX	10
V	**FINANCIAL SERVICES:** Merchant Banking Services - Scope - Fund Based and Non Fund Based Services - Venture Capital, Features, Importance, Stages, Venture Capital Financing in Indian Scenario - Discounting, Factoring and Forfeiting - Meaning, Terms and Conditions, Types of Factoring - Mutual Funds - Meaning, Importance, features, types, Organization Structure, Mutual Funds in India, Specific terms: Corpus, Units, Schemes, Load, NAV, Benchmark.	10

Reference Books:

1. The Indian Financial System - Vasanth Desai, HPH
2. Indian Financial System - Bharati V. Pathak; Pearson Education Pvt. Ltd.
3. Indian Financial System - Dr. Alice Mani, SBH
4. Financial Institutions and Markets - L. M Bhole Tata Mc Graw Hill
5. Indian Financial System - M Y Khan, TMH
6. Indian Financial System - A Datta, Excel Books
7. Indian Financial System - D K. Murthy and Venugopal, I.K. International Publishers
8. Indian Financial System - P N Varshney &D K Mittal, Sultan Chand & Sons
9. Indian Financial System - K. Venkatramana, SHBP
10. Indian Financial System - H.R.Machiraju, Visaks Publishing House.

COURSE - DSCAT-6.5: STRATEGIC COST AND PERFORMANCE MANAGEMENT

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: To impart knowledge on applying various cost management techniques for planning and controlling performance in order to set, monitor and control strategic objectives.

Units	Topics	No. of Periods
I	**INTRODUCTION TO STRATEGIC COST:** Concept of Strategic Cost Management - Limitations of Traditional Cost Management -Traditional Vs. Strategic Cost Management - - Cost of Quality - Total Quality Management - Business Excellence Model - Throughput Accounting and Theory of Constraints - Supply Chain Management - Gain Sharing Arrangements - Outsourcing.	8
II	**COST MANAGEMENT TECHNIQUES:** Target Costing - Value Analysis / Value Engineering - Pareto Analysis - Life Cycle Costing - Environmental Management Accounting - Just in Time – Kaizen - 5 Ss - Total Productive Maintenance - Six Sigma - Business Process Re-engineering.	10
III	**PRICING STRATEGIES AND DECISIONS:** Theory and principles of Product Pricing - Pricing - New Product - Finished Products and Pricing of Services - Sensitivity Analysis in Pricing Decisions - Pricing Decision under special circumstances - Pricing Strategies.	10
IV	**PERFORMANCE MEASUREMENT AND EVALUATION:** Responsibility Accounting - Linking Critical Success Factors (CSFs) to Key Performance Indicators (KPIs) and Corporate Strategy; Performance Measurement Models - Balanced Scorecard - The Performance Pyramid - The Performance Prism and The Building Block Model - Operating Profit Analysis - Divisional Performance Measures - Preparation of Performance Reports.	14
V	**STRATEGIC DECISION MAKING AND MANAGERIAL CONTROL:** Decision making using CVP Analysis - Relevant Cost Concepts - Ethical and Non-financial Considerations relevant to decision-making.	10

Reference Books:

1. Jawahar Lal, Startegic Cost Management, HPH
2. Hariharan K, "Strategic Cost Management and Performance Evaluation", Wolters Kluwer.
3. Prasath, Saravana, "Strategic Cost Management and Performance Evaluation", Wolters Kluwer.
4. Kishore, Ravi, "Strategic Cost Management", Taxmann
5. Govindarajan, Shank, "Strategic Cost Management: The New Tool for Competitive Advantage", Simon and Schuster.
6. Study material of the Institute of Chartered Accountants of India (ICAI), The Institute of Cost and Management Accountants of India (ICMAI), and The Institute of Company Secretaries of India (ICSI) – [Freely downloadable from the websites of respective institutions].

COURSE - DSCAT-6.6: CORPORATE TAX PLANNING AND MANAGEMENT

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: To impart students with knowledge on tax, tax modalities and to orient the students on the procedures and formalities to be adhered, with regard to tax matters.

Units	Topics	No. of Periods
I	**TAX PLANNING AND MANAGEMENT:** Tax Planning, Tax Avoidance and Tax Evasions – Meaning and differences. Objectives and Types of Tax Planning, Areas of Tax Planning – Location of Business, Nature of Business, Form of Ownership, Specific Management Decisions – Capital Structure Decisions, Own or Lease an Asset, Make or Buy Decisions, Repair or Replace Decisions, Transfer Pricing. Tax Planning for Amalgamations.	10
II	**DEPRECIATION AND INVESTENT ALLOWANCE:** Meaning and Definition – Important points regarding Depreciation - Block of Assets – Rates of Depreciation – Additional Depreciation on Plant and Machinery – Problems.	12
III	**ASSESSMENT OF CORPORATE ASSESSEES :** Meaning and Definition of Company - Types of Companies, Residential Status and Incidence of Tax for companies, computation of taxable income and tax liability according to Income Tax Provisions, Book Profits, Minimum Alternate Tax under section 115JB, Tax Credit under MAT, Dividend Distribution Tax u/s 115-O.	
IV	**ASSESSMENT PROCEDURE:** Advance Tax – Computation, remittance, Interest on non-payment or short-payment of Advance Tax, Tax Deduction at Source – Rates, Types of Assessment, Types of Returns.	6
V	**CUSTOMS DUTY:** Import Procedures and Export Procedures. Meaning and Types, Features and Sources, Applicability, Chargeability of Customs Duty. Exceptions for levy of customs duty. Taxable Event, Valuation of imported and exported goods for levy of customs duty. Computation of Customs Duty Payable. General Procedures.	10

Reference Books:

1. Singhania, Vinod, and Singhania, Kapil, "Direct Taxes – Law and Practice", Taxmann.
2. Ahuja, Girish and Gupta, Ravi, "Direct Taxes – Law and Practice", Bharat Publications.
3. Manoharan, T. N and Hari, G.R., "Direct Tax Laws", Snow White Publications.
4. V Rajesh Kumar and Mahadev, "Indirect Taxes", Mc Graw Hill Publications.
5. Sodhani, Vineet, "Indirect Taxes", Taxmann Publications.
6. Manoharan, T.N. and Hari, G.R., "Indirect Taxes:, Snow White Publications.
7. Hiregange, Jain and Nayak, "Student's Handbook on Indirect Taxes", Puliani and Puliani.
8. Study material of the Institute of Chartered Accountants of India available at http://www.icai.org/post.html?post_id=10169 and http://www.icai.org/post.html?post_id=10172

COURSE - DSCF-6.5: RISK MANAGEMENT AND DERIVATIVES

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: To provide knowledge on risks associated with investments outside the business and strategies for hedging the same with derivatives.

Units	Topics	No. of Periods
I	**Investment Risks and Derivatives** Meaning of Derivatives. Types of Derivatives – Forward Agreements, Future Contracts – Terms associated with Futures – Stock Futures and Index Futures. Differences between Forwards and Futures. Margin and Settlement Mechanism of Futures.	15
II	**Future Contracts – Hedging and Trading** Hedging with Futures – Stock Hedging: When there is a future contract available on the stock and when there is no future contract available on the stock. Portfolio Hedging: Adjusting Portfolio Risk. Pricing of Futures.	15
III	**Options – Basics and Strategies** Option Contracts – Meaning, Types – Call, Put, American, European, Pay-off and Pay-off Diagrams. Hedging Strategies – Protective Put Strategy and Covered Call Strategy. Trading Strategies with Options – Straddle, Strip, Strap, Strangle, Spreads.	12
IV	**Option Pricing** Put-Call Parity Theory, Portfolio Replication Method, Risk Neutralization Method, Binomial Method and Black-Scholes Method. Option Greeks.	10
V	**Commodity Risks and Commodity Derivatives** Commodity Markets, Commodity Exchanges, Commodity Derivatives.	4

Reference Books:

1. Gupta S.L., "Financial Derivatives – Theory, Concepts and Problems", PHI.
2. Cohen, Guy, "Options Made Easy", FT Prentice Hall
3. Sridhar, A.N., "Futures and Options – Equities – Trading Strategies and Skills", Shroff Publishers and Distributors.
4. Duarte, Joe, "Futures and Options for Dummies", Wiley India.
5. Damodaran, Aswath, "Corporate Finance", John Wiley & Sons Inc.
6. Damodaran Aswath, "Applied Corporate Finance", John Wiley & Sons Inc.
7. Chandra, Prasanna, "Financial Management – Theory and Practice", Tata McGraw-Hill Publishing Company Limited.
8. Pandey, I M, "Financial Management", Vikas Publications.
9. Khan, M.Y., and Jain, P.K., "Financial Management – Text, Problems and Cases", Tata McGraw-Hill Publishing Company Limited.
10. Chance Brooks, *An Introduction to Derivatives & Risk Management*, Thomson.
11. Hull J, *Options, Futures and Other Derivatives*, 6 ed., Prentice Hall.
12. Kumar, SSS, "Financial Derivatives", Prentice Hall of India.
13. Parasuraman, N.R., "Fundamentals of Financial Derivatives", Wiley India.
14. Vohra, and Bagri, "Futures and Options", Tata Mc Graw Hill.

COURSE - DSCF-6.6: INTERNATIONAL FINANCIAL MANAGEMENT

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: To make students understand the various international transactions risks of an enterprise and provide knowledge and skills for hedging foreign currency risks.

Units	Topics	No. of Periods
I	**Global Financial Environment** Evolution of International Monetary System, Bimetallism, Classical Gold Standard, Interwar Period, Bretton Woods System, Flexible Exchange Rate Regime, The current Exchange Rate Agreements, European Monetary System, Fixed vs Flexible Exchange Rate Regime.	10
II	**Balance of Payments** Introduction, Accounting Principles in Balance of Payments, Valuation and Timing, Components of the Balance of Payments, 'Surplus' and 'Deficit' in Balance of Payments, Importance and limitations of BOP Statistics, Relationship of BOP with other economic variables.	10
III	**International Financial Markets** Motives for using International Financial Markets, Foreign Exchange Market – History and Transactions, interpreting Foreign Exchange Quotations, International Money Markets, International Credit Markets and International Bond Markets, Comparison of International Financial Markets.	10
IV	**Exchange Rate Determination** Purchasing Power Parity Theory, Interest Rate Parity Theory, International Fischer's Effect, Pure Expectations Theory.	15
V	**Foreign Exchange Risk and Risk Hedging Strategies** Transaction Risk, Translation Risk, Economic Risk, Risk Hedging Strategies: Internal – Netting, Leads and Lags; External – Forwards, Futures, Options, Money-market Hedging, Currency Swaps. **Interest Rate Risk and Risk Hedging Strategies** Interest Rate Swaps, Forward Rate Agreements, Interest Rate Futures, Interest Rate Options, Caps, Floors and Collars, Swap option.	15

Reference Books:

1. Madura, Jeff, "International Corporate Finance", Thomson South-Western.
2. Sharan, Vyuptakesh, "International Financial Management", Prentice Hall of India.
3. Jain, Peyrard, and Yadav" "International Financial Management", MacMillan
4. J. Fred Weston, Bart: *Guide to International Financial Management.*
5. Robery O. Edmister: *Financial Institutions - markets and Management.*
6. A.V. Rajwade: *Foreign Exchange International Finance and Risk Management*, Prentice Hall.
7. Alan Shapiro: *Multinational Financial Management*, Prentice Hall, New Delhi.
8. Apte, Prakash, "International Finance – A Business Perspective", Tata Mc Graw Hill.
9. *David B. Zenoff & Jack Zwick: International* Financial Management.
10. Rita M. Rodriguez L. Bigame Carter: *International Financial Management.*
11. V. A. Avadhani: *International Finance- Theory and Practice*, Himalaya Publishing House.

COURSE - DSCM-6.5: SERVICES MARKETING

Weekly Teaching Hours: 4 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The objective of this course is to develop an understanding of services and service marketing which emphasis on various aspects of service marketing which make it different from goods marketing.

Units	Topics	No. of Periods
I	**INTRODUCTION TO SERVICES:** Introduction, meaning of services, nature and scope, unique characteristics, difference between services and tangible products, service sector, classification of services, growth of service sectors and service industries.	12
II	**SERVICES MARKETING:** Introduction, concept and evolution of services marketing, meaning of service marketing, myths encountered in services, need for service marketing, and growth in service marketing.	12
III	**SERVICE MODELS:** Service quality gap model, Gronroos model of service quality (internal marketing, external marketing and interactive marketing), challenges in marketing of services, application of service marketing to hospitals, educational institutions, tourism industry.	12
IV	**CONSUMER BEHAVIOR IN SERVICE MARKETING:** Introduction, customer expectations in services, service costs experienced by consumer, the role of customer in service delivery, conflict handling in services, customer responses in services, concept of customer delight.	12
V	**EMERGING ISSUES IN SERVICE MARKETING:** Introduction, strategic approach to services marketing, service marketing in e-commerce and e-marketing, and telemarketing services, service marketing research for global markets and rural markets, innovations in services marketing, ethical aspects in service marketing.	12

Reference Books:

1. S. M. Sinha: Service Marketing, HPH
2. Zeithaml, Bitner, Gremler and Pandit, TMH Publication: Service Marketing
3. Hoffman and Bateson, Marketing of Services, Cengage Learnings
4. K. Karunakaran: Services Marketing, HPH

COURSE - DSCM-6.6: CONSUMER BEHAVIOUR

Weekly Teaching Hours: 4 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objective: The objective of the course is to make the students to understand consumer behavior in marketing management and the changing trends in consumer behavior.

Units	Topics	No. of Periods
I	**INTRODUCTION TO CONSUMER BEHAVIOUR:** Meaning & Definition of CB – Difference between consumer & customer – Nature & characteristics of Indian Consumers – Consumer Movement in India – Rights & Responsibilities of consumers in India – Benefits of consumerism.	
II	**PSYCHOLOGICAL DETERMINANTS & CONSUMER BEHAVIOR:** (a) Motivation – Needs, Types, Theories – Role of Motivation in Consumer Behavior. (b) Personality & Attitude – Theories of Personalities & its Application – Freudian, Trait, Jungian, Self-concept. (c) Formation of Attitude – Theories & its Relevance in Consumer Behavior – Cognitive Dissonance – Tricomponent – Changing Attitude in Consumer Behavior.	12
III	**PERCEPTION AND CONSUMER BEHAVIOUR:** Introduction, meaning, nature, Importance and limitation of perception, Barriers to accurate perception, Sensation, perception of values, perception of process. Determining consumer buying Behaviour:- Consumer purchase decision, types of decision, types of decision behaviour, buying stage and situational influence, models of consumer behaviour- Economic model, learning model, sociological model, Howard Sheth model of buying.	12
IV	**SOCIAL CLASS AND GROUP INFLUENCES ON CONSUMER BEHAVIOR:** Introduction, nature of Social Class, Social Class Categories, Money and Other Status Symbols; Source of Group Influences, Types of Reference Groups, Nature of Reference Groups, reference Group Influences, Applications of Reference Group Influences, Conformity to Group Norms and Behavior, Family Life Cycle Stages, nature of Family Purchases and Decision-making, Husband-wife Influences, Parent-child Influences, Consumer Socialization of Children, word-of-Mouth Communications within Groups, opinion Leadership.	12
V	**CONSUMER DECISION MAKING PROCESS:** Outlet selection – Purchase and post Purchase Behaviour – Organisational Buyer Characteristics – Purchase and Demand patterns – Factors Influencing Organisational Buying Behaviour – Organisational Buying Decision Process – Organisational Buying Roles	

Reference Books:

1. Suja. R. Nair, Consumer behavior and Marketing Research, Himalaya Publishing House, Mumbai.
2. Boyd, Westfall & starch, Marketing Research, text & cases, AITBS, New Delhi
3. G.C Beri, Marketing Research, Tata McGraw Hill publishing company, New Delhi.
4. M.N.Mishra, Modern Marketing Research; First Edition, Himalaya Publishing House, Mumbai.
5. Malhotra, Marketing Research.
6. Sontakki; Consumer Behaviour.
7. Schiffman; Consumer Behaviour.
8. Batra/Kazmi; Consumer Behaviour.

COURSE - DSCIB-6.5: GENERAL INSURANCE BUSINESS

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours
Credits: 3 | Maximum Marks: 100

Objectives: To develop an understanding of the working of the insurance sector as a profession a list of career opportunities. This necessitates students gain an insight into various issues in insurance sector.

Units	Topics	No. of Periods
I	**INTRODUCTION TO GENERAL INSURANCE:** Meaning of General Insurance – The Evolution and Growth of General Insurance – Types of General Insurance – Fundamentals of General Insurance – Recent innovations. Organization and Management of General Insurance Companies – Regulatory Framework for General Insurance in India.	12
II	**FIRE INSURANCE:** Standard policies – Fire Insurance coverage – Consequential loss (fire) Insurance policies – Declaration policies. Marine Insurance: Marine Cargo policies – Hull policies – Institute cargo clauses – Institute hull clauses – Open policies – Accumulation of risk per location -Motor Insurance: Types of policies – Third party Insurance – Comprehensive coverage – Conditions and Exclusions – premium.	14
III	**NON LIFE INSURANCES:** Personal Accident Insurance, Health Insurance and Mediclaim policies, Liability Insurance, Burglary Insurance other Miscellaneous Insurances, Rural Insurance covers, Engineering Insurance and its Consequential loss covers, Aviation hull and Aviation liability.	12
IV	**UNDERWRITING AND SETTLEMENT OF CLAIMS:** Proposal forms, Cover notes, Certificates of Insurance, Endorsements, Moral and Physical Hazards, Statistics Spreading of Risks, Premium Rating, Premium Loading.	10
V	**SETTLEMENT OF CLAIMS:** Claim procedure, TPAs, Claim forms, Investigation / Assessment, Essential Claim Documents, Settlement Limitation, Arbitration, Loss Minimization and Salvage.	12

Reference Books:

1. Insurance Institute of India – IC 34 – General Insurance
2. Insurance Institute of India – IC 45- General Insurance Underwriting
3. Module I, Principles and Practice of General Insurance, The Institute of Chartered Accountants of India: New Delhi.
4. H Narayanan, Indian Insurance: A Profile, Jaico Publishing House: Mumbai.
5. K.C. Mishra and G.E. Thomas, General Insurance - Principles and Practice, Cengage Learning: New Delhi

COURSE - DSCIB-6.6: INFORMATION TECHNOLOGY IN BANKING

Weekly Teaching Hours: 5 | Examination Duration: 3 Hours

Credits: 3 | Maximum Marks: 100

Objective: To make the students to get acquainted with the use of information technology in banking and cope up with changing requirements of the banking sector.

Units	Topics	No. of Periods
I	**INTRODUCTION TO E-BANKING:** Meaning, definition, features, advantages, and limitations - Evolution of e-banking in India, Legal framework for e-banking. Electronic Payment System Types of Electronic Payment Systems, Digital Token-based EPS, Smart Card EPS, Credit Card EPS, Risk in EPS, Designing a EPSE - banking Business Models Various models - home banking, office banking, online banking, internet banking, mobile banking, SMS banking - models of electronic payments, other business models	14
II	**DATA MANAGEMENT:** Induction of Techno Management Development Life Cycle, Project Management, Building Data Centres, Role of DBMS in Banking, Data Warehousing and Data Mining, RDBMS Tools	12
III	**BANKING TECHNOLOGY:** Technology in Banking Industry, Teleconferencing, Internet Banking, Digital Signature in Banking - MICR Facility for 'paper-based' clearing - Cheque Truncation	10
IV	**BANKING INNOVATIONS:** Technological Changes in Indian Banking Industry - Trends in Banking and Information Technology - Technology in Banking - Lead Role of Reserve Bank of India, New Horizons for Banking based IT, Automated Clearing House Operations, Electronic Wholesale Banking Credit Transfer, Credit Information Bureau (I) Ltd., Credit Information Company Regulation Bill- 2004, Automation in Indian Banks.	12
V	**RECENT TRENDS IN BANKING:** New Technology in banking - Core Banking, Home Banking, Mobile banking, Virtual banking, NEFT, RTGS, ECS, E-money, Electronic purse, and Digital cash - Dealing with Fraudulent transactions under CTS, Efficient customer service, smart quill computer pen, Institute for Development & Research in Banking & Technology (IDRBT)	12

Reference Books:

1. Gordon and Natarajan, Banking Theory Law and Practice, HPH
2. S. P Srivastava, Banking Theory and Practice, Anmol Publications
3. Tandan M.L, Banking Law and Practice in India, Indian Law House
4. Sheldon H.P, Practice and Law of Banking
5. K. Venkataramana, Banking Operations, SHBP
6. Kothari N. M, Law and Practice of Banking
7. Neelam C Gulati, Principles of Banking Management
8. Maheshwari. S.N, Banking Law and Practice, Vikas Publication
9. Shekar. K.C, Banking Theory Law and Practice, Vikas Publication
10. Dr. Alice Mani, Banking Law and Operation, SBH
11. Satyadevi, C., *Financial Services Banking and Insurance*, S.Chand
12. Suneja, H.R., *Practical and Law of Banking*, Himalya Publishing House
13. Chabra, T.N., *Elements of Banking Law*, Dhanpat Rai and Sons
14. Saxena, G.S, *Legal Aspects of Banking Operations*, Sultan Chand and Sons
15. Varshney, P.N., *Banking Law and Practice*, Sultan Chand and Sons.

COURSE - SEC-6.7: ENTERPRISE RESOURCE PLANNING

Weekly Teaching Hours: 2
Credits: 1

Examination Duration: 2 Hours
Maximum Marks: 50

Objective: To provide a contemporary and forward-looking on the theory and practice of Enterprise Resource Planning Technology and prepare the students to self-upgrade with the higher technical skills.

Units	Topics	No. of Periods
I	**INTRODUCTION TO ENTERPRISE RESOURCE PLANNING:** Introduction - Meaning and Definition of ERP, Need for Enterprise Resource Planning - Evolution of Enterprise Resource Planning - Risks and benefits –Fundamental technology of ERP - Issues to be considered in planning design and implementation of cross functional integrated ERP systems	10
II	**ERP SOLUTIONS AND FUNCTIONAL MODULES:** Overview of ERP software solutions, Small, medium and large enterprise vendor solutions, Business process Re-engineering - Business process Management - Functional Modules - ERP Production planning module, purchasing module, ERP Inventory control module, ERP Sales module, ERP Marketing module, ERP Financial module and ERP HR module.	10
III	**ERP IMPLEMENTATION:** Planning Evaluation and selection of ERP systems - ERP Implementation life cycle - ERP Implementation methodologies - ERP project teams - vendors and consultants - Post Implementation activities and emerging trends on ERP.	10

Reference Books:

1. Enterprise Resource Planning: Alexis Leon, Tata McGraw Hill.
2. Enterprise Resource Planning: Diversified by Alexis Leon, TMH.
3. Enterprise Resource Planning: Ravi Shankar & S. Jaiswal, Galgotia
4. Enterprise Resource Planning: Concepts & Practices, by V.K. Garg & N. K. Venkatakrishnan, PHI
5. Enterprise wide Resource Planning: Theory & practice: by Rahul Altekar, PHI
6. Enterprise Resource planning: Jyotindra Zaveri, HPH

COURSE - SEC-6.8: INTERNSHIP PROGRAMME

Objective: To enable the students' to undergo in-plant training and understand the overall industrial system

The students of the sixth semester should undergo 10 days intensive training in any organisation for the Internship Program preferably after completion of fifth semester and before commencement of sixth semester examinations. After the training programme they should prepare and submit the report covering functions of the industry and its contributions towards society. The internship programme should carry 50 marks, out of which 40 marks for the brief report on the in-plant training and 10 marks for the internal assessment. The concerned records should be kept in the college department for at least six months, which should be produced to the university authorities as and when asked.

QUESTION PAPER PATTERN

Maximum Marks: 80 **Exam Duration: 3 Hours**

Section – A (10X2=20)

1. Answer any ten sub questions, each sub question carries two marks
   a.
   b.
   c.
   d.
   e.
   f.
   g.
   h.
   i.
   j.
   k.
   l.

Section – B (3X5=15)

Answer any three questions; each question carries five marks (in case of practical papers four problems and one theory question)

2.
3.
4.
5.
6.

Section – C (2X15=30)

Answer any two questions; each question carries fifteen marks (in case of practical papers three problems and one theory question)

7.
8.
9.
10.
11.

Section - D (1X15=15)

Compulsory question (Case study/problems)

12.

QUESTION PAPER PATTERN

Maximum Marks: 40 **Exam Duration: 2 Hours**

Section – A (5X2=10)

1. Answer any five sub questions; each sub question carries two marks

a.
b.
c.
d.
e.
f.
g.

Section – B (2X5=10)

Answer any two questions; each question carries five marks

2.
3.
4.
5.

Section – C (2X10=20)

Answer any two questions; each question carries ten marks

6.
7.
8.
9.

Shri Vijay Mahantesh Vidyavardhak sangha's

SHRI VIJAY MAHANTESH ARTS, SCIENCE & COMMERCE COLLEGE, ILKAL

PROJECT REPORT - 2022-23

Subject : Physics **Subimitted to : Prof.B.M.Nadaf**

Class : B.Sc. **Semester : I Sem**

S.L No	Register No	Name of the student	Topics	Sign
1	U15IQ2250001	REVANASIDDAPPA SHARANAPPA KODATAGERI	Young's Modulus By Stretching	
2	U15IQ2250002	VAISHALI SANGAPPA KAMATAGI	Free Energy By Steam Engine	
3	U15IQ2250003	PRIYANKA GOUDAPPA BIRADAR	Free Energy By Steam Engine	
4	U15IQ2250008	KOUSAR ANWARDDIN PINJAR	Tesla Coil	
5	U15IQ2250009	POOJA SHARANAPPA AGASIMUNDIN	Automatic Street Light	
6	U15IQ2250010	CHAMUNDESHWARI HANUMAPPA	Automatic Street Light	
7	U15IQ2250011	HARSHITA VIJAYENDRA KULAKARNI	Tesla Coil	
8	U15IQ2250014	TIPPANNA YALLAPPA KODATAGERI	Young's Modulus By Stretching By Bending Method	
9	U15IQ2250015	SIDDAMMA HANAMAGOUDA POLICEPATIL	Automatic Street Light	
10	U15IQ2250019	SEETANAGOUDA LAXMANAGOUDA BIJJAL	Young's Modulus By Stretching	
11	U15IQ2250020	BASAVARAJ BHAJANTRI	Tesla Coil	
12	U15IQ2250024	MOHAMMADKAIF KHAJAHUSEEN TAHASILDAR	Young's Modulus By Stretching By Bending Method	
13	U15IQ2250026	AMARANATH MALLANNA HULI	Young's Modulus By Stretching By Bending Method	
14	U15IQ2250027	SWARAJ SANGAPPA NAGARALA	Young's Modulus By Stretching By Bending Method	
15	U15IQ2250028	SAGAR VEERAYYA SANKURMATH	Young's Modulus By Stretching	
16	U15IQ2250031	SWAPNA SHANKARGOUDA HOSAMANI	Automatic Street Light	
17	U15IQ2250032	VINOD SHARANAPPA PAMANAKELLUR	Young's Modulus By Stretching By Bending Method	
18	U15IQ2250033	VISHAL SANGAPPA SONNAD	Young's Modulus By Stretching By Bending Method	
19	U15IQ2250043	REKHA SIDDAPPA MEGALAMANI	Free Energy By Steam Engine	
20	U15IQ2250053	AFREEN MEHABOOBSAB KATAMBLI	Tesla Coil	
21	U15IQ2250054	SAHANA DEVARAJ NAGALIKAR	Tesla Coil	
22	U15IQ2250055	SHIVALEELA SANGAPPA HALABAR	Electromagnetic Induction	
23	U15IQ2250061	SWATHI RAMAPPA RATHOD	Electromagnetic Induction	
24	U15IQ2250062	MANJUNATH BELLIHAL	Tesla Coil	
25	U15IQ2250063	HANAMAVVA LAKSHMANNA MATARANGI	Automatic Street Light	
26	U15IQ2250064	MARUTHI MARIYAPPA GUDIMANI	Young's Modulus By Stretching	
27	U15IQ2250066	UDAYAKUMAR DEVANNA KANNAL	Young's Modulus By Stretching	
28	U15IQ2250070	NINGAMMA CHANNAPPA HIREMANI	Tesla Coil	
29	U15IQ2250072	POOJA CHADRASHEKHAR SHIVANAGI	Tesla Coil	
30	U15IQ2250076	SACHIN GATTI	Young's Modulus By Stretching	
31	U15IQ2250078	VENKATESH HANUMAPPA BANDARAGAL	Young's Modulus By Stretching	
32	U15IQ2250082	AFFAN KALABURAGI	Young's Modulus By Stretching	
33	U15IQ2250083	CHINMAY ANGADI	Tesla Coil	
34	U15IQ2250085	PRUTHVI NAGANAGOUDA GOUDAR	Tesla Coil	

Note : Project Report should be in A4 sheets and submit to the department without fail.

B.M. Nadaf

PRINCIPAL
S V M Arts, Science and Commerce College ILKAL

Head Of the Department
S.V.M. Arts, Science & Commerce College, ILKAL-587125

Shri Vijay Mahantesh Vidyavardhak sangha's

SHRI VIJAY MAHANTESH ARTS, SCIENCE & COMMERCE COLLEGE, ILKAL

PROJECT 2022-23

PROJECT REPORT & MARKS LIST

DATE : 13-01-2023

Subject : Physics

Total Marks : 10

Class : B.Sc.

Semester : I Sem

Roll No	Register No	Name of the student	Sign	Marks
1	U15IQ2250001	REVANASIDDAPPA SHARANAPPA KODATAGERI		09
2	U15IQ2250002	VAISHALI SANGAPPA KAMATAGI		10
5	U15IQ2250003	PRIYANKA GOUDAPPA BIRADAR		10
8	U15IQ2250008	KOUSAR ANWARUDDIN PINJAR		09
11	U15IQ2250009	POOJA SHARANAPPA AGASIMUNDIN		09
10	U15IQ2250010	CHAMUNDESHWARI HANUMAPPA		10
09	U15IQ2250011	HARSHITA VIJAYI NDRA KULAKARNI		10
13	U15IQ2250014	TIPPANNA YALLAPPA KODATAGERI		10
14	U15IQ2250015	SIDDAMMA HANAMAGOUDA POLICEPATIL		09
19	U15IQ2250019	SEETANAGOUDA LAXMANAGOUDA BIRAL		09
22	U15IQ2250020	BASAVARAJ BHAJANTRI		A.B
25	U15IQ2250024	MOHAMMADKAIF KHAJAHUSEEN TAHASILDAR		08
31	U15IQ2250026	AMARANATH MALLANNA HULI		09
33	U15IQ2250027	SWARAJ SANGAPPA NAGARALA		09
34	U15IQ2250028	SAGAR VEERAYYA SANKURMATH		09
37	U15IQ2250031	SWAPNA SHANKARGOUDA HOSAMANI		10
50	U15IQ2250032	VINOD SHARANAPPA PAMANAKELLUR		09
29	U15IQ2250033	VISHAL SANGAPPA SONNAD		09
30	U15IQ2250041	BHIMAMMA HANAMANTAPPA KATAPUR	Admission Cancel	
43	U15IQ2250043	REKHA SIDDAPPA MEGALAMANI		10
53	U15IQ2250053	AFREEN MEHABOOBSAB KATAMBLI	Admission Cancel	
52	U15IQ2250054	SAHANA DEVARAJ NAGALIKAR		09
56	U15IQ2250055	SHIVALEELA SANGAPPA HALABAR		09
60	U15IQ2250061	SWATHI RAMAPPA RATHOD		09
62	U15IQ2250062	MANJUNATH BELLIHAL	Admission Cancel	
63	U15IQ2250063	HANAMAVVA LAKSHMANNA MATARANGI		09
64	U15IQ2250064	MARUTHI MARIYAPPA GUDIMANI		10
68	U15IQ2250066	UDAYAKUMAR DEVANNA KANNAL		09
72	U15IQ2250070	NINGAMMA CHANNAPPA HIREMANI		10
70	U15IQ2250072	POOJA CHADRASHEKHAR SHIVANAGI		09
74	U15IQ2250076	SACHIN GATTI		09
77	U15IQ2250078	VENKATESH HANUMAPPA BANDARAGAL		09
83	U15IQ2250082	AFFAN KALABURAGI		09
81	U15IQ2250083	CHINMAY ANGADI	Cancellation Cancel	
85	U15IQ2250085	PRUTHVI NAGANAGOUDA GOUDAR		09

Date : 13-1-23

Signature of the Incharge

1].Prof.B.M.NADAF

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S.V.M.ARTS,SCIENCE & COMMERCE COLLEGE,ILKAL

ILKAL - 587125

DEPARTMENT OF PHYSICS

FOR THE YEAR : 2022 -23

PROJECT REPORT

Topic: Automatic Street Light

SUBMITTED BY : Chamundeshwari.H.

REGISTER NUMBER : U15IQ22S0010

CLASS : BSC 1st SEM

SUBMITTED TO : B.M.Nadaf

H.O.D. Sign.

Head Of the Physics Department
S.V.M. Arts, Science & Commerce
College, ILKAL- 587125

Prof.Sign

Index

Introduction

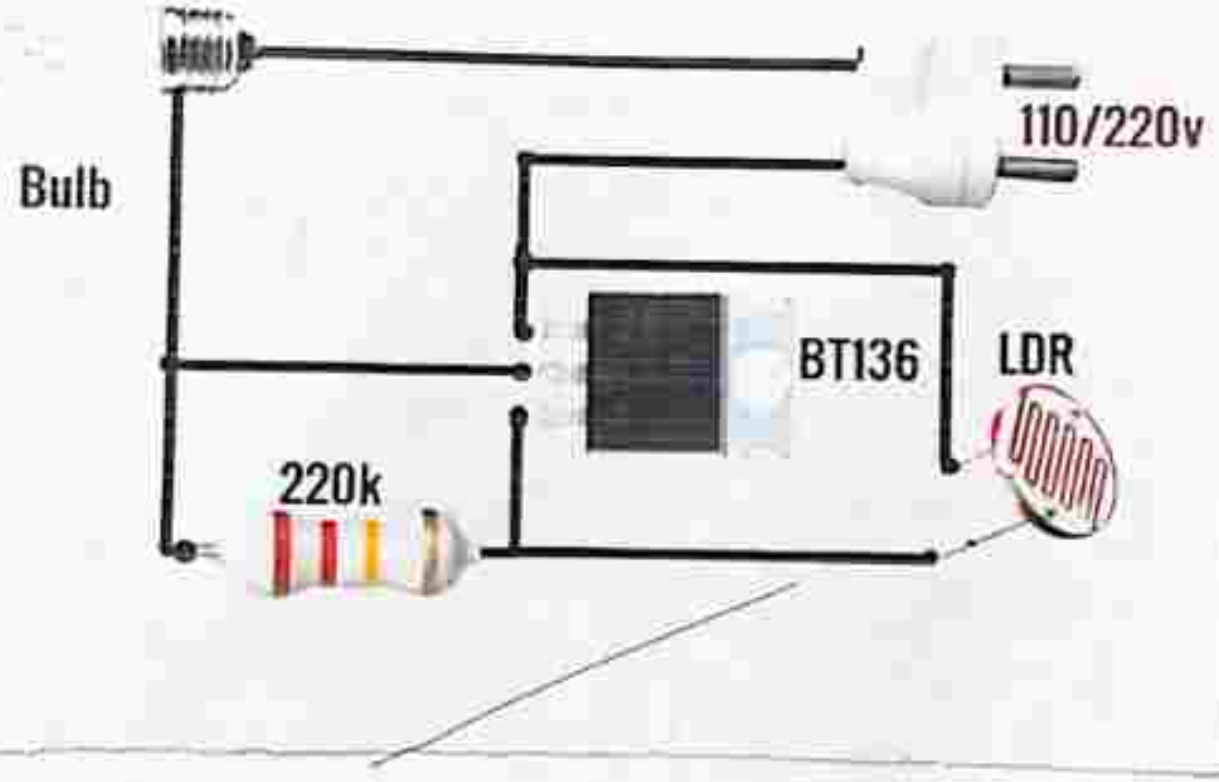
In today's morden world the developm-ent in transportation system plays a vital role. It consists of roads, streets, highways etc.. these pathways must be illuminated brightly with the help of several types of glowing bulbs or LEDs. The main purpose of providing the lights to these highways, roads or street is to provide saftey to the vehicle and number of persons crossing these path and prevent them from any mis happening or accident. Another purpose of providing lighting to these places is that during the neight times when a smaller vehicle passes the road, the pedestrian can easy crosses the roads without feeling any darkness on the road. But, for providing large amout of illumination, huge amount of electricity is requried which causes high cost.

The main reason behind the high cost is due to the continuous glowing of lightning for more than 12 hours a day. so, for reducing the electricity cost and preventing the high cost there is a need to develop a system that is autonomous. Therefore, this paper deals with the system that is autonomous, it means that if there is a presence of any vehicle or person at the street, the light must be automatically turn ON and during the absence of any vehicles or person the light should be autom -atically turn OFF.

Sometimes, it is also observed that in some places very few vehicles pass the road. In these case, there must be automatically cut in the electricity when no vehicles passes the road and switch the electricity ON when vehicle passes the road. This will reduce the consumption of electricity by street lightning

Circuit diagram

Automatic Street Light



system by 30 to 40%. Conventionally, there the street lighting systems were switched on and switched off manually with the help of some personnel which takes much human efforts and consumes high amount of electric -ity. Hence, this paper proposes automatic switching system for street lighting. The proposed system is also effective if detecting the faults in street lightning system without actually going physically for inspection.

Apparatus

BT-136, LDR, 220k Register, smart bulb holder, transistor.

Procedure

* Insert first transistor Q1 - BC547 (NPN) on breadboard.
* The working principle of LDR is that it gives less resistance in high light intensity

and high resistance in low light intensi-ty it gives high resistance in dark or night and low resistance in day or light.

* Here we use transistor as a two way switch. If the voltage through base is greater than 5V it send through the emitter. If the voltage through base is less than 5V the it sends through collector.

* During night the LDR gives a high resistance as a result the voltage passing through the base will become less than 5V so the LED glows.

* During day time LDR gives a low resistance as a result the voltage through base is greater than 5V which switches the current to the emitter. This turns LED off.

* Circuit and connections

Place the transistor on the breadboard. Connect the emitter to the negative of the battery.

Base to one terminal of LDR.

connect the resistor to base and positive terminal of battery.

collector to the anode of LED, from cathode of LED to resistor. Another end of resistor to positive terminal of battery. Another terminal of LDR to negative terminal of battery. If this is done in large-scale the a lot of electricity can be saved. No need to search of other forms of electricity. Let's first time spend money on useful ideas of the young shiners.

Advantages

* Energy saving
* Low cost
* safety & security.
* Reducing physical efforts
* very flexible.

* The automatic operation of street light controlling system help to reduce the energy consumption as compared to the manually operated street light controlling operations. This is because there is a delay in the earlier switching operations both in morning & evening.
* On sunny and rainy days, ON and OFF time is noticeably differ which is one of the major distodvantages of using timer circuits or manual operation for switching the street light system
* Low power consumption.

Application

* Used in street light applications
* Used in Domestic applications

Conclusion

The streetlight controller using ldr based light intensity & traffic density, in the todays up growing countries will be more effective in case of cost, manpower and security as compare with today's running complicated and complex light controlling systems. Automatic street light controlling system puts up a very user friendly approach and could increase the power.

This paper elaborate the design & construction of automatic street control system circuit. Circuit works properly to turn street lamp ON/OFF. After designing the circuit which control the light of the street as illustrated in the previous sections. LDR sensor & the photoelectric sensor are the two main conditions in working the circuit. If the two conditions have been

satisfied the circuit will do the desire work according to specific program. Each sensor controls the turning on or off the lighting column. The street lights has been successfully controlled by microcontroller. With commands from the controller the lights will be on in the places of movement when it's dark. furthermore the drawback of the street light system using timer controller has been overcome. where the system depends on photoelectric sensor. Finally this contol circuit can be used in a long roadways btw th.

Future scope

We can save the energy for the future used y we can control the losses of the power. we can implemented this project for the home lamp of the room. This is also used for the signals.

B.Sc VI Semester Paper-I Chemistry
Project distribution list 2022-23

Sl No	REG. No	NAME OF THE STUDENT	Project Topic Name	Project Supervisor
1	S2042001	AISHWARAYA	Food adultration	TIM
2	S2042002	AISHWARYA AMBARESH RAMPUR	Food adultration	VYT
3	S2042003	AISHWARYA DHANNUR	Food adultration	TIM
4	S2042005	AISHWARYA KATTIMANI	Food adultration	TIM
5	S2042006	AISHWARYA MALLAPPA HOLI	Food adultration	TIM.
6	S2042007	AISHWARYA R. HALISAGAR	Food adultration	TIM
7	S2042010	AKHILA AMINAGAD	Food adultration	TIM
8	S2042011	AMBIKA CHOUDRI	Food adultratm	TIM
9	S2042012	ANUSHA GANAPATI CHAVAN	Food adultration	TIM
10	S2042013	ANUSHA S. GUNDASAGAR	Food adultratm	TIM
11	S2042014	ANUSHRI P.ITLAPUR	Food adultration	TIM
13	S2042016	ASHWINI SHANKARAPPA KUMBAR	Fradadultration	TIM
14	S2042017	BANASHREE HADAGALI	Adultration in vegetable oils	TIM
15	S2042018	BASAMMA SOMAPPA PUJARI	Adultration in vegetable oils	TIM

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Department of Chemistry
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ILKAL - 587125

2022-23

16	S2042019	BASANAGOUDA SANGANAGOUDA PATIL	—	—
17	S2042020	BASAVARAJ	—	—
18	S2042021	BASAVARAJ ILAGER	—	—
19	S2042022	BHAGYA TIRUMUKH	—	—
20	S2042024	BHAGYASHREE MAHANTAPPA KUSHTAGI	Preparation of soap	WT
21	S2042025	BHAVANA BADIMNAL	Ripening of Fruits	WT
22	S2042026	BHAVANA ILIGER	—	—
23	S2042027	BHEEMAVVA	Ripning of fruit	VVI
24	S2042028	CHAITRA MALLANAGOUDA PATIL	Preparation of soap	WT
25	S2042029	CHAITRA MANKANI	Preparation of soap	WT
26	S2042030	CHAITRA SANGAPPA PATTANASHETTI	Ripning of fruit	VVI
27	S2042031	CHAITRA SHILLI	Preparation of soap	WT
28	S2042032	CHIDANANDA TEGGI	—	—
29	S2042033	CHINNAPPA BEVOOR	—	—
30	S2042035	DANAMMA SHEKHAPPA SAIJAN	Water analysis	WT
31	S2042036	DEEPA PATIL	Food adulteration	VVT.

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2022-23

32	S2042037	DEVARAJ BADIGER	—	—
33	S2042038	DEVIKARANI	Ripening of Fruits.	WT
34	S2042039	DODDABASAMMA	water analysis	WT
35	S2042040	FARHATANJUM SANDUR	water analysis	WT
36	S2042041	GANESH PUNDALEEKAPPA RATHOD	Food adultration	WT
37	S2042042	GOVINDAGOUDA TIMMANAGOUDA HULLALLI	Food adultration	WT
38	S2042045	HAJIMALLAHANG MAHABUBSAB ARABJAMADAR	— Cs/E/—	dropout
39	S2042046	HANAMAGOUDA PATIL	— Cs —	—
40	S2042048	HARISHKUMAR MALLIKARJUN METI	Food adultration	WT
41	S2042049	HASANASAB MAIBOOBASAB KANDAGALLA	Food adultration	WT
42	S2042050	IRAMMA IRAPPA ANGADI	Water analysis	WT
43	S2042051	JAVID NOORAMAHMAD NAIK	—	—
44	S2042052	JAYASHREE RAMANAGOUDA SANNAGOUDAR	—	—
45	S2042053	JYOTI HANAMAGOUD GOUDAR	Food Adulteration	V.Y.T
46	S2042054	JYOTI SANGANNA PALLED	Food Adulteration	V.Y.T
47	S2042055	KAVERI RAMESH GOTUR	Food Adulteration	V.Y.T

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2022-23

48	S2042056	KAVITA	—	—
49	S2042057	KAVYA	Food Adulteration	V.Y.T
50	S2042059	KEERTI MALLAPPA PALLED	Food adulteration in Fruits	V.Y.T
52	S2042061	KIRANKUMAR	Ripening of Fruits	V.Y.T
53	S2042062	KUSUMA VEERABHADRAPPA BADIGER	Adulteration in Vegetable oil (V.O)	VYT
54	S2042063	LAXMI PRABHANAND KAKHANDAKI	Adulteration in Vegetable oil	VYT
55	S2042064	Khajjeayish N. Mulla.	Adulteration in Vegetable oil	VYT
56	S2042065	MADHUMATI SHANKARYYA GURUSTHALAMAT	Adulteration in Vegetable oil	VYT
57	S2042066	MAHAMMAD MUSTAFA MOMIN	Ripening of Fruits	VYT
58	S2042068	MALLIKARJUN S KOPPAD	Ripening of Fruits	VYT
59	S2042069	MAMATA KENGALLAPPA HIRENINGAPPANAV	Surface tension & Viscosity of different v.oils	VYT
60	S2042070	MANJUNATH SANGAMAD	Ripening of Fruits	V.Y.T
61	S2042071	MARUTI MUTTANNA BHAJANTRI	Ripening of Fruits	V.YT
62	S2042073	MEGHANA DEVENDRAPPA PATTAR	Surface tension & Viscosity of different v.oils	VYT
63	S2042074	MEGHANA MOHAN DIDDI	Surface tension & Viscosity of different V. oils	VYT
64	S2042075	MOHEENTAJ MULLA	Analysis of milk	VYT

Mr. Vijaykumar Tukaram, M.Sc., K-SET
Assistant Professor
Department of Chemistry
SVM Arts, Science & Commerce College
ILKAL - 587125

2022-23

142	S2042165	YALLESHA	— dropout —	
143	S2042166	YAMANAKKA NAVKAR	— dropout —	
144	S2090064	Uzma Hani	Adulteration in fruits.	V.Y.T
145.	S2090065	Meghana.Y	Adulteration in fruits	V.Y.T
146.	S2038793	Shivakumara	Ripening of Fruits	V.Y.T

Name of the Faculty: -

1) V Y T - Mr. Vijaykumar. Y. Tumbad

2) TIM - Smt. T. I. Manvi.

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Assistant Professor
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S.V.M.V.V Sangha's

S.V.M ARTS, SCIENCE AND COMMERCE COLLEGEILKAL-587125

Department of Chemistry

A PROJECT REPORT ON

"Water Analysis"

Submitted for the partial fulfilment of the requirements for the award of degree of

Bachelor of Science

Submitted by

Ms. Pavitra.I.Kolli (S2042089)

Ms. Pooja.L.Kampli (S2042093)

Ms. Netravati.D.M (S2042079)

B.Sc VIth Semester

Under the guidance of

Shri.VijaykumarY.Tumbad

Assistant Professor

Department of Chemistry

S.V.M Arts, Science and Commerce College Ilkal-587125

2022-23

Dr. P. S. Kandagal

HOD, Dept of Chemistry

S.V.M Arts, Science and Commerce College ILKAL-587125

LIST OF CONTENTS :

WATER ANALYSIS

Introduction:

Sampling :
The physical and chemical characteristics of drinking water vary from top to bottom of depth of land as well as with time as from morning to evening, it therefore becomes difficult to obtain a truely representative sample.

Types of samples :
1)Tap water sample : Tap water samples are single sample collected at a specific spot at a site over a short period of time.
2)Borewell water sample: These samples are collected at a specific spot at a site
3)Rain water sample : These samples are collected at a specific spot at a site.

Sample containers :
Containers typically are made of plastic or glass but one material may be preferred over the others. For example, silica, sodium and boron may be leached from soft glass but not plastic and trace levels of some pesticides and metals may also absorb onto the walls of glass containers.

Sampling methods :

a) Manual sampling : Manual sampling involves minimal equipment but may be costly and time consuming for routine or large scale sampling program.

b) Automatic sampling : Automatic samples can eliminate can reduce labor costs may provide the means for frequent sampling and are used increasingly.

c) Sorben sampling : Use of solid Sorbent is particularly membrane type disks is becoming more frequent.

1)DETERMINATION OF P^H :

Aim :To determine the of a given sample of water.

Apparatus required : P^H meters or P^H paper , Brakers, Tissue paper , Wash bottles, Test tubes.

Chemicals required : Distilled water.

Procedure :

Take 1ml of tap water sample in a beaker. Dip the P^H paper into it. The P^H paper turns to green in colour. So the P^H of tapwater sample is 7 (Neutral). Take another 1 ml of Borewell water sample. Dip the P^H paper into it. The P^H paper turns into blue in colour so the P^H of tap water is 10 (Basic).The third sample is rain water sample it is dark green in colour so it is 8 (Basic).

RESULT:

1. P^H of the given sample A is : Neutral.
2. P^H of the given sample B is : Basic.
3. P^H of the given sample C is : Basic.

2) DETERMINATION OF HARDNESS :

Aim : To determine the total hardness of the givensample of water.

Apparatus required : Burette,Pipette, Conicalflask, Beaker, Standard flask, PVC bottle.

Chemicals required: EDTA, Ammonium chloride, EBT, Sodium chloride, Ethanol, Ammonium, Hydroxide.

Reagent Preparation :

1) EDTA solution 0.01 N :
   Dissolve 3.723 g of disodium salt of EDTA is in distilled water to prepare 1 liter of solution store in polyethylene or pyrex bottle.

2) Buffer solution :
   Dissolve 16.9 g of ammonium chloride in 143 ml of concentrated ammonium hydroxide. Add 1.25 gof magnesium salt of EDTA to obtain sharp change in colour of indicator and dilute to 1 liter with distilled water.

   Erichrome black T:
   Dissolve 0.25 g of EBT in 500 ml alcohol or 0.5 g of EBT with 100 g of sodium chloride to prepare dry powder.

Procedure :

Titration :

EDTA v/s Sample water :
To pipette out 20 ml of sample water into a Conical flask. To this 5 ml of buffer solution and 2 drops of erichrome black T indicator was added. The solution was titrated against EDTA taken in the burette. The end point was change of colour from wine red to steel blue. The titration was repeated upto concerant values.

Tabular column :

Sl. NO.	Volume of Water	Burette readings		Volume of EDTA (ml)
		Initial	Final	
1.	20ml	0	4.2	4.2
	20ml	4.2	8.9	4.7
	20ml	8.9	13.0	4.1
2.	20ml	0	6.5	6.5
	20ml	6.5	13.5	7
	20ml	13.5	20.2	6.7
3.	20ml	0	6.1	6.1
	20ml	6.1	11.5	5.4
	20ml	11.5	17.6	6.1

Calculation :

1.Mean : 4.2+4.7+4.1/3
= 4.34

2. Mean : 6.5+7.6.7/3
= 6.74

3. Mean = 6.1+5.4+6.1/3
= 5.87

1. $V_1 N_1 = V_2 N_2$

$$N_2 = \frac{V_1 N_1}{V_2}$$

$= 4.34 \times 0.01 / 20$

$N_2 = 0.00217$

2. $V_1 M_1 = V_2 M_2$

$M_2 = \frac{V_1 M_1}{V_2}$

$= 6.74 \times 0.05 / 20$

$M_2 = 0.016837$

3. $V_1 M_1 = V_2 M_2$

$M_2 = \frac{V_1 M_1}{V_2}$

$= 5.87 \times 0.05 / 20$

$M_2 = 0.0146750$

1. The Hardness of given sample water = Normality of sample water x Eq.wt of $CaCo_3$ x 1000

$= 0.0146750 \times 50.045 \times 1000$

$= 734.5581$ ppm

2. The Hardness of given sample water = Normality of sample water x Eq.wt of $CaCo_3$ x 1000

$= 0.016837 \times 50.045 \times 1000$

$= 842.5665$ ppm

3. The Hardness of given sample water = Normality of sample water x Eq.wt of $CaCo_3$ x 1000

$= 0.0146750 \times 50.045 \times 1000$

$= 734.5581$ ppm

Result:

1. The Hardness of given sample A is : 734.5581 ppm
2. The Hardness of given sample B is : 842.5665 ppm
3. The Hardness of given sample C is : 734.5581 ppm

3) DETERMINATION OF CHLORIDE :

Aim :To determine the concentration of chloridepresent in the given sample of water.

Apparatus required : Conical Flask, Beaker, Wash bottle, Test tubes.

Chemicals required: Silver nitrite,Sodium chloride , Water sample.

Procedure :

Take 1ml of tap water sample in a test tube and then add a few drops of silver nitrite into it. The water sample get precipitate if the precipitate is formed then it clear that the water samplecontaining a chloride and then same procedure is continued for other.

Result :

1. In the water sample A the chloride is in less quantity.
2. In the water sample B the chloride is in little amount.
3. In the water sample C the chloride is in more quantity.

5.DETERMINATION OF TOTAL DISSOLVED SOLIDS (TDS) :

Aim : To determine the total amount of dissolvedsolids in the given sample of water.

Apparatus required : Crucible, Weighing machine,Wash bottle, Burner , Beaker.

Procedure :

Take a weight of empty crucible and note it. Further take 10 ml of water in crucible and heat it until water sample evaporates.

Then keep it for 10 min and weigh the crucible and record the weight of crucible. Next substract the weight of empty crucible in the heat crucible with water sample. Then we get a total dissolved solids.

Calculations :

1. TDS =weight of heated crucible - weight of empty crucible.

   = 51. 095 - 51.08
   = 0.015g
2. TDS =weight of heated crucible - weight of empty crucible.

   = 45.925 - 45.920
   = 0.005g

3. TDS = weight of heated crucible - weight ofempty crucible.

   = 46.925 - 46.900
   =0.025g

Result :

Amount of TDS in the given sample A is = 0.015 g.

Amount of TDS in the given sample B is = 0. 005 g.

Amount of TDS in the given sample C is = 0.025 g.

Reference:

1. IS 3025 (part 21) - 1983 methods of sampling and test (physical and chemical) for water and waste water - Total hardness
2. IS 3025 (part 32) - 1988 methods of sampling and test (physical and chemical) for water and waste water - Chloride
3. IS 3025 (part 24) 1986 methods of sampling and test (physical and chemical) for water and waste water - sulphate
4. Advances in biological treatment of industrial waste water and their recycling for sustainable future - Total dissolved solids.

Project list - Botany

B.Sc V Semester 2022-23

Sl.No	Register No	Name of the student
1	U15IQ21S0012	TASLEEM.R.B
2	U15IQ21S0013	SOUMYA M.K
3	U15IQ21S0027	GYNAPPA
4	U15IQ21S0030	MAHAMMADKAIF.M.K
5	U15IQ21S0032	MANJULA.A.M
6	U15IQ21S0042	HABIBA
7	U15IQ21S0046	AFSANA.M.K
8	U15IQ21S0050	SHIVANGOUDA.B.M
9	U15IQ21S0054	ASHWINI.S.G
10	U15IQ21S0056	AMRUTA.B.V
11	U15IQ21S0065	NIKHIL.V.K
12	U15IQ21S0073	SAHANA.V.S
13	U15IQ21S0079	VEERESH.H.H
14	U15IQ21S0083	TASMIYANAAZ.M.I
15	U15IQ21S0092	CHANDRASHEKAR.N.C
16	U15IQ21S0095	SNEHA.M.M
17	U15IQ21S0096	RAKSHITA.L.A
18	U15IQ21S0097	SHREYA.V.N
19	U15IQ21S0098	CHAITRA.V.G
20	U15IQ21S0099	SHIREEN.M.H
21	U15IQ21S0104	SAHANA.S.M
22	U15IQ21S0116	SHRUSHTI.H.U
23	U15IQ21S0117	SANGAMESH.S.K
24	U15IQ21S0122	ASIYA.R.K
25	U15IQ21S0125	RAIMA.A.A
26	U15IQ21S0126	SHREEKANT.B.B
27	U15IQ21S0130	CHANADANA.S.M
28	U15IQ21S0132	AKASH.M.A
29	U15IQ21S0138	SANTOSH.M.K
30	U15IQ21S0153	RAKESH.M.H
31	U15IQ21S0155	ASHWINI.B.S
32	U15IQ21S0160	ARUNA.H.P
33	U15IQ21S0162	AKSHATA.C.K
34	U15IQ21S0166	MEGHA.B.B
35	U15IQ21S0167	DEKSHITA.R.B

Sl.No	Register No	Name of the student
1	U151Q22S0005	DEEPA.M.B
2	U151Q22S0012	SOUMYA.S.G
3	U151Q22S0016	SHREYA.D.S
4	U151Q22S0022	MALLIKARJUN.A.L
5	U151Q22S0023	MDJRFATIMA.A.B
6	U151Q22S0025	BHAGYASHREE.R.T
7	U151Q22S0029	LAXMI.S.K
8	U151Q22S0035	SANTOSH.S.B
9	U151Q22S0036	DEEPAT.N
10	U151Q22S0038	JYOTI.N.C
11	U151Q22S0042	MANJULA.R.B
12	U151Q22S0044	POOJA.S.K
13	U151Q22S0050	KAVERI.M
14	U151Q22S0051	ASITA.R.B
15	U151Q22S0056	ASNAPORNA.S.P
16	U151Q22S0057	AISHWARAYA.S.H
17	U151Q22S0058	BHAVITH
18	U151Q22S0073	VIJAYALAXMI.V.J
19	U151Q22S0081	ARJUNA.S.M
20	U151Q22S0084	KHAZARANDENAWAZ.M.B

S.V.M.V.V Sangha's

S.V.M Arts, Science and Commerce College Ilkal-587125

Department of Botany

A project report on

"VERMICOMPOST"

S.V.M Arts, Science and Commerce College Ilkal-587125

Department of Botany

CERTIFICATE

This is to certify that the students of B.Sc sixth semester have satisfactorily completed the Project work on the topic **"vermicompost"** as prescribed by the Rani Chennamma University Belgavi.

Submitted by

Name of the Student: Uzma Attar

Register number: S2042157

Staff in charge:

19/02/2023

Ilkal

Date:

Head of the department

21/02/23

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I am student of B.Sc. sixth semester CBZ gratefulto Prof. Rohini Pol(Head of Department ,Botany) for giving suggestion and encouragement and under the guidance of Prof. Veena Naregal duringconduct of our project work.

VERMICOMPOST

INTRODUCTION

Vermicomposting is a chemical and biological process for recycling nutrients with the aid of earthworms and microorganisms. Thus, vermicompost is considered as a high nutrient biofertilizer with diverse microbial communities (Pathma and Sakthivel, 2013). Vermicomposting technology is known throughout the world and considered as a widely spread popular technology. As a process for handling organic residuals, it represents an alternative approach in waste management, neither landfilled nor burned but is considered a resource that may be recycled. It is a sustainable, cost-effective, and ecological technology for efficient treatment of biodegradable wastes, and is thus widely adopted to recycle hazardous and worthless organic wastes into safe and valuable products (Garg et al. 2006). 2. Vermicompost Earthworms consume various organic wastes and reduce the volume by 40–60%. Each earthworm weighs about 0.5 to 0.6 g, eats waste equivalent to its body weight and produces cast equivalent to about 50% of the waste it consumes in a day. The moisture content of castings ranges between 32 and 66% and the pH is around 7.0. (Reddy et. al., 1998). The worm castings contain higher percentage (nearly two fold) of both macro and micronutrients than the garden compost. From earlier studies also it is evident that vermicompost provides all nutrients in readily available form and also enhances uptake of nutrients by plants (Sreenivas et al., 2000). Vermicomposting is the process of conversion of organic wastes into finely degraded peat like substances using earthworms. All composting methods can be used for the vermicomposting instead earthworms are used in vermicomposting after partial decomposition of the waste materials. Vermicompost is a biofertilizer enriched with all beneficial soil microbes and also contains all the essential plant nutrients like N, P and K. Vermicompost that is prepared through conventional

method has standard values of total nitrogen: 1.94%, phosphorus: 0.47% and potassium: 0.70%. It is also enriched with various micronutrients such as Mg (0.46%), Fe (7563 ppm), Zn (278 ppm), Mn (475 ppm), Bo (34 ppm), Cu (27 ppm). Thus, eliminate usage of any further artificial chemical inputs. Further, nutrients in vermicompost are often much higher than traditional garden compost (Alam et. al., 2007).

Materials for preparation of Vermicompost

Any types of Bio-degradable wastes

- Crop residues
- weed bio-mass
- Vegetable waste
- Leaf litter
- Hotel refuse
- Wastes from Agro-Industries
- Bio-degradable portion of urban and rural wastes

Efficient Species

- Eisenia foetida
- Amyanthes differigens
- Eudrillus eugineae

Procedure

1. To prepare compost, either a plastic or a concrete tank can be used. The size of the tank depends upon the availability of raw materials.

2. Collect the biomass and place it under the sun for about 8-12 days. Now chop it to the required size using the cutter

3. Prepare a cow dung slurry and sprinkle it on the heap for quick decomposition

4. Add a layer (2-3inch) of soil or sand at the bottom of the tank

5. Now prepare fine bedding by adding partially decomposed cow dung, dried leaves and other biodegradable wastes collected from fields and kitchen. Distribute them evenly on the sand layer.

6. Continue adding both the chopped bio-waste and partially decomposed cow dung layer wise into the tank up to a depth of 0.5-1.0 ft

7. After adding all the bio-wastes, release the earthworm species over the mixture and cover the compost mixture with dry straw or gunny bags

8. Sprinkle water on a regular basis to maintain the moisture content of the compost

9. Cover the tank with a thatch roof to prevent the entry of ants, lizards, mouse, snakes, etc. and protect the compost from rainwater and direct sunshine

10. Have a frequent check to avoid the compost from overheating. Maintain proper moisture and temperature

EARTHWORMS USED FOR VERMICOMPOSTING

VermiCompost-Bed Installation

Nutrient content of Vermicompost

Nitrogen: 1.5 - 2.5%

Phosphorus: 0.9 - 1.7%

Potash: 1.5 - 2.4%

Calcium: 0.5 - 1.0%

Magnesium: 0.2 - 0.3%

Sulphur: 0.4 - 0.5%

And other micro-nutrients with vitamins, enzymes and hormones

ENEMIES AND PREDATORS OF EARTHWORMS

At 70% protein, earthworms make a nice meaty snack for birds, reptiles and mammals, especially moles. Because we certainly don't want to go around wiping out birds, reptiles and mammals, we'll let them have their share. But there are some sinister characters lurking in the soil.

In certain conditions, red mites can attack earthworms. If you see red dots on earthworms in your yard, you should cut down on the moisture in that area - it may be too wet. Also, placing pieces of watermelon or potato on the soil surface will draw and trap the mites. Dispose of the pieces and repeat the process to cut down the mite population over time.

How can we protect earthworms?

If you want to encourage or sustain a healthy population of worms there are a few things you can do to improve the conditions for them:

- Reduce tilling your soil.
- Leave organic matter on the surface.
- Add manure and compost.
- Ditch the chemicals.
- Use an organic mulch to keep soil moist and cool.

Vermiwash a plant growth regulator

Vermiwash is a liquid plant growth regulator which contains high amount of enzymes, vitamins and hormones like auxins, gibberellins etc. along with macro and micro-nutrients.

PREPRATION OF VERMIWASH

Water is sprinkled to wet the waste or dung while the vermicompost manure is being prepared. While eating this wet waste, some amount of water also goes into the body of the earthworm. This water is released from the body of the earthworm along with the waste. This yellowish water is called as Vermiwash- liquid fertilizer.

Generally, the drum method is used for producing vermiwash. In the drum, earthworms are fed on agricultural waste or dung and slowly the water is added to it. This water is mixed with the waste. These wastes are consumed by earthworms and expelled with some water.

It contains earthworm urine in the form of moisture. This urine accumulates in the base of the drum. These drams are fitted to the bottom of the basin, through which the drainage of the wastewater comes out.

Application

- Mix 1 litre of vermiwash with 7-10 litres of water and spray the solution in the leaf (upper and lower side) in the evening at the growing stage of the crop.
- Mix 1 litre of vermiwash with 1 litre of cow urine and then add 10 litres of water to the vermiurine solution and mix thoroughly and keep it over night before spraying. 50 to 60 litres of such solution are to be sprayed in one bigha of land to control various crop diseases

Advantage of Vermicompost

- Vermicompost is rich in all essential plant nutrients.
- Provides excellent effect on overall plant growth, encourages the growth of new shoots/leaves and improves the quality and self life of the produce.
- Vermicompost is free flowing, easy to apply, handle and store and does not have bad odour.
- If improves soil structure, texture, aeration, water holding capacity & prevent soil erosion.
- Vermicompost is rich in beneficial micro-flora such N-fixers, solubilizers, cellulose decomposing micro-flora, etc.
- Vermicompost contains earthworm cocoons and increases the population and activity of earthworm in the soil.
- It neutralizes the Soil pH.
- It prevents nutrient losses and increases the use efficiency of chemical fertilizers.
- Vermicompost is free from pathogens, toxic elements, weed seeds, etc.
- Vermicompost minimizes the incidence of pest and diseases.
- Vermicompost enhances the decomposition of organic matter in soil.
- Vermicompost contains valuable vitamins, enzymes and hormones like auxins, gibberellins etc

CONCLUSION

Vermicomposting is a low-cost and environment-friendly mechanism for waste management as well as bio-fertilizer production. Vermicomposting offers various benefits compared with traditional thermophilic composting. Vermicomposting progresses due to the earthworm and the microbes associated with the gut and soil. Earthworm gut and soil microbes have an immense effect in completing the vermicomposting process. Various enzymes produced by gut microbes help in digesting the organic matter. These gut-associated microbes also produce plant-growth-related factors and thus, may help in promoting plant growth while also suppressing the pathogenic microbes when applied in soils. These microbes also play an important role in the detoxification of pollutants. The dynamics of microbes in the earthworm gut and vermicast are related to earthworm species, substrate content, and the composting environment. The Vermi Compost Project successfully demonstrated the effectiveness and numerous benefits of vermicomposting for organic waste management. It showcased the potential for sustainable agriculture and environmentally friendly practices.

S.V.M.V.V.Sangha's

SVM ARTS, SCIENCE AND COMMERCE COLLEGE, ILKAL

DEPARTMENT OF ZOOLOGY

PROJECTS (FIRST HALF)

FOR THE YEAR 2022-23

CLASS:B.SC V SEM.PAPER-I

SL.NO	TITLE OF THE PROJECT	NAME OF THE STUDENT
01	Visit to Fisheries farm	1. Mr.Basavaraj.I 2. Mr.Rahul C 3. Mr Sanju C 4. Mr. Shiva M 5. Mr.praveen Kumar 6. Mr.Sharanappa A 7. Mr.Prashant.K 8. Mr.Mallikarjun
02	Visit to poultry farm	1. Miss.Tanjeem. 2. Miss.Parvati 3. Miss.Kavita 4. Miss.Keerti 5. Miss.Devika 6. Miss.Deepa 7. Miss.Uzma A 8. Miss.Swati 9. Miss.Bhavana
03	Visit to Dairy farm	1. Miss.Chaitra S P 2. Miss.Bheema.R 3. Miss.Pavitra.Kolli 4. Miss.pooja Kallpli 5. Miss.Netra.M 6. Miss.Aishwarya

Date:01-02-2023

Dr. G.M. Sajjanar
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2022-23

Department fo History

Project work

SUBMITTED To

pro.B.S.Math

HOD History

SUBMITTED BY

Co.pro.R.Y. Hanachate

NAME: -MUTTANNA.B.PUJARI

REG:-U15IQ22A0048

CLASS:-BA 2 SEM

ಶ್ರೀ ವಿಜಯ ಕಾಲೇಜು

ಶ್ರೀ ವೀರಾಂಜನೇಯ ಕಲಾ, ವಿಜ್ಞಾನ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ, ಜಯನಗರ - 587 125

ಬಸವನ ಬಾಗೇವಾಡಿ ತಾಲ್ಲೂಕು, ವಿಜಯಪುರ ಜಿಲ್ಲೆ, ಕರ್ನಾಟಕ ರಾಜ್ಯ, ದೂರವಾಣಿ ಸಂಖ್ಯೆ

ವ್ಯಾಸಂಗ ಪತ್ರ

ಈ ಮೂಲಕ ಪ್ರಮಾಣೀಕರಿಸಲಾಗಿದೆ ವಿದ್ಯಾರ್ಥಿ / ವಿದ್ಯಾರ್ಥಿನಿ ಈ ಕೆಳಕಂಡಿರುವಂತೆ ವ್ಯಾಸಂಗ ಮಾಡಿರುವರು

ವಿದ್ಯಾರ್ಥಿಯ ಮೇಲೆ ಶಿಸ್ತುಪರಮಕೆಯಲ್ಲಿ ಯಾವುದೇ ಆರೋಪ ಹೊರಿಸಿಲ್ಲ ಹಾಗೂ ಈ

ವ್ಯಾಸಂಗ ಪತ್ರ ಅಂಗೀಕೃತ.

ಯೋಜನಾ ಆರೋಪ ವಿವರವು ಕೆಳಗಿನಂತಿದೆ

ವಿದ್ಯಾರ್ಥಿಯ/ವಿದ್ಯಾರ್ಥಿನಿಯ ಹೆಸರು: ಪಿಂಜಾರ ಶಕೀಲ್ ಎಂ. ಹೆಚ್. ಹೆಸರಾಪುರ

ಪಡೆದ ಪದವಿ ವಿವರವು: BA

ವಿಷಯ: BA III^rd Semester

ಸೀಟ್ ನಂ.: 48

ವಿದ್ಯಾರ್ಥಿ ನಂ.: U15IQ22A00148

ವ್ಯಾಸಂಗ ವರ್ಷ: 2022 - 2023

ಸ್ಥಳ: ಜಯನಗರ

ದಿನಾಂಕ: 23/08/2023

ಪ್ರಾಂಶುಪಾಲರ ಸಹಿ ಮತ್ತು ಮುದ್ರೆ

ವಿದ್ಯಾರ್ಥಿಯ ಸಹಿ

ಶ್ರೀ ವಿಜಯ ಕಾಲೇಜು

ಶ್ರೀ ವಿಜಯ ವಿದ್ಯಾವರ್ಧಕ ಸಂಘ, ವಿದ್ಯಾನಗರ ದಾವಣಗೆರೆ ರಸ್ತೆ, ಹರಪನಹಳ್ಳಿ - 583 131

ಸ್ಥಾಪಕ: ದಿವಂಗತ ಪದ್ಮಶ್ರೀ ಡಾ|| ಸಿ.ಎಂ. ಇಬ್ರಾಹಿಂ ಅವರ ಪುಣ್ಯಸ್ಮರಣೆಯಲ್ಲಿ

ಪ್ರವೇಶ ಪತ್ರ

ಈ ಕೆಳಗೆ ತಿಳಿಸಿರುವಂತೆ ನಿಮ್ಮಿಂದ / ನಿಮ್ಮಿಂದ ಈ ಕೆಳಕಂಡಿರುವಂತೆ ಪ್ರವೇಶಾತಿ ಪಡೆದಿದೆ.

ನಿಮ್ಮಲ್ಲಿರುವ ಅಂತಿಮ ಪ್ರವೇಶಾತಿಯನ್ನು ದಾಖಲಿಸಲು ಈ ಪ್ರವೇಶ ಪತ್ರವನ್ನು ತರುವುದು ಕಡ್ಡಾಯವಾಗಿದೆ. ಈ

ಪ್ರವೇಶ ಪತ್ರ ಅಮಾನ್ಯ.

ಪ್ರವೇಶಾತಿ ಸಂದರ್ಭದಲ್ಲಿ ನಿಮ್ಮಲ್ಲಿರಬೇಕಾದ ಪತ್ರಗಳು

ವಿದ್ಯಾರ್ಥಿಯ ಹೆಸರು: ಪವಿತ್ರಲಕ್ಷ್ಮಿ .ಟಿ, ಹೆಚ್.ಪಿ.ಸಿ

ಕೋರ್ಸಿನ ಹೆಸರು: BA

ತರಗತಿ: BA III^na Semester

ರೋಲ್ ನಂ: 48

ವಿದ್ಯಾರ್ಥಿ ನಂ: U1SJCQ22A00048

ಶೈಕ್ಷಣಿಕ ವರ್ಷ: 2022 - 2023

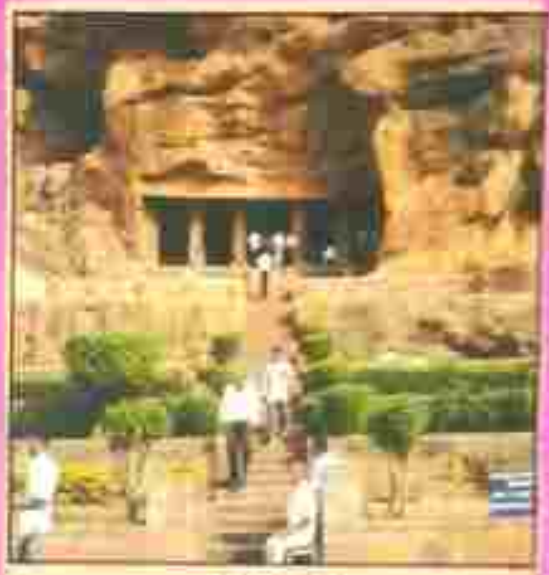
ಸಹಿ: ಅಭ್ಯರ್ಥಿ

ದಿನಾಂಕ: 22/08/2023

ಅಧಿಕೃತ ಸಿಬ್ಬಂದಿ ಸಹಿ

ಹೆಸರು ಮತ್ತು ಪದವಿ

ಪ್ರಾಂಶುಪಾಲರು



Badami
ಬಾದಾಮಿ

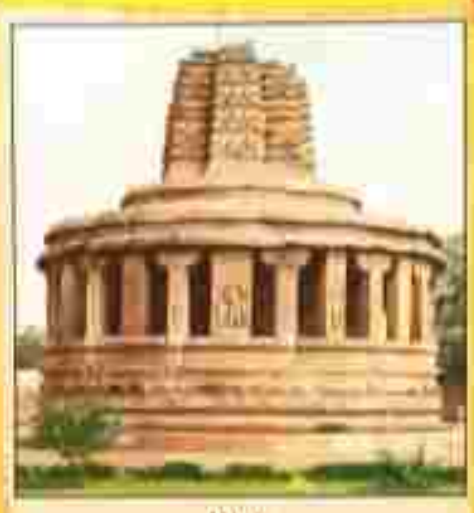
* ಬಾದಾಮಿ

- ಬಾದಾಮಿಯಂತಾ ನಮ್ಮ ರಾಜ್ಯದ ಪಾರಂಪರಿಕ ಪ್ರ
-ನ್ನ ತೆರಿಕಾಡಿಸಿಕ ಕೋಳ್ಳುವಾಗಿದೆ. ಚಾಲುಕ್ಯರಿಂದ ಮಾಡಲಿನ
-ಷ ಓದುನೇ ಹೊಲಕೆಲ್ಸ 6 ಶತಮಾನದಲ್ಲ ಬಾದ
ಕೆನಾಲತೆ ಕಟ್ಟಿಸಿದ ಬಾದಾಮಿ ಕಾತಾಪಿ ಎಂದು ಕರೆ
-ತ್ತೋ ಇದು ಚಾಲುಕ್ಯರಿಗಿಂತ ಬೆಟಾಲು ಬಲ್ಲವರಿ
ಸೇಳಿತ್ತೋ ಬಾದಾಮಿ ಗಾಡ್ಡದಲ್ಲ ಓಂದೆನಾಂದು ಅಮಂ
ಓಂಡೆಂಟಾಲ್ಲ ನಾಲ್ಕು ಗುಹಾಲಂಟಾಗ್ಯುತೆ. ಇವ್ಯಾಗಳ್ಳ
ಅರಡು ವೈಶ್ಣವ ಓಂದು ಜೈನ. ಇನ್ನೊಂದು ಶೈನ
ಸಂಪ್ರದಾಯಕ್ಕೆ ಶೇರಿವೆ. ಈ ಗುಹಾಲಂಟಾಗಳ್ಳಿ
ಮಂಗಳೇಶನ ಕಾಲದಲ್ಲಾವ ವೈಷ್ಣವ ಗುಹಾಲಂಟ
ಹೆಚ್ಚಾಗಿತ್ತೋ. ಕ್ರಿ. ಶ 578 ರಲ್ಲಿ ಮಂಗಳೇಶನ
ಶಾಸನವಿರುವ. ಇಲ್ಲಿ ಸುಮಾರಾದ 18 ಶಾಸನಗಳ
ಹೆಕ್ಕಾರಿದ್ದಾರೆ ಈ ಚಾಲುಕ್ಯರ ವಾಸ್ತುಶಿಲ್ಪ ಶೈಲಿಯಂದ ಮುಖ್ಯ
-ಗಿವೆ.

ಇಂತಹ ಹೆಸ್ಮೆಯಾ ಸಾಮ್ರಾಜ್ಯ ಕ್ರಿ.ಶ 250 ವರ್ಷದ
ಇತ್ತೀಚಿನವರೆಗೂ ಕೊನೆಯಾಗಿತ್ತು ತಮ್ಮ ಕೈಕೆಳಗೆ
ಬರುವಂತಹ ರಾಷ್ಟ್ರಕೂಟರ ರಾಜಮನೆತನಕ್ಕೆ ಹೊಲ
ಬರುವ ಹಾಗೆ ಚಾಲುಕ್ಯರು ಆಳ್ವಿಕೆ ತಾತ್ಕಾಲಿಕವಾಗಿ
ಕೊನೆಯಾಗುತ್ತದೆ. ನಂತರ ರಾಷ್ಟ್ರಕೂಟರು
ಸುಮಾರು 250 ವರ್ಷ ಆಡಳಿತ ನಡೆಸುತ್ತಾರೆ.
ಇತಿಹಾಸದ ಕಾಲಚಕ್ರ ಉರುಳುತ್ತದೆ. ಕ್ರಿ.ಶ
973 ರಲ್ಲಿ ಮತ್ತೆ ಚಾಲುಕ್ಯರು 2ನೇ ತೈಲಪನು
ರಾಷ್ಟ್ರಕೂಟರ 2ನೇ ಕರ್ಕನನ್ನು ಸೋಲಿಸುವ
ಮೂಲಕ ಆಡಳಿತವನ್ನು ಮಂದೆ ಪಡೆದುಕೊಳ್ಳುತ್ತಾನೆ.
ಇಲ್ಲಿಂದಾಚರಿಸಿದಂತೆ ಉದಾಹರಣೆ ಚಾಲುಕ್ಯರು
ಕೊನೆಯ ಅರಸನ ಬದಲಾವಣೆಯನ್ನು
ಮಾಡಿ ಕೇಂದ್ರವಾಗಿ ಮಾಡಿಕೊಂಡು ಆಡಳಿತವನ್ನು
ನಡೆಸಿದ್ದರಿಂದ ಇಲ್ಲಿಂದ ಮುಂದೆ ಈ ಮಾದರಿಯನ್ನು
ಇತಿಹಾಸದಲ್ಲಿ "ಕಲ್ಯಾಣ ಚಾಲುಕ್ಯರು" ಎಂದು
ಗುರುತಿಸಲಾಗುತ್ತದೆ. ಇಲ್ಲಿಯೇ ಮಾದಾಮಾದನನ್ನು
ವಧಿಸಿದ್ದರಿಂದ ನಾವೆಲ್ಲಾ ಇಲ್ಲಿಂದಲೇ ಆಡಳಿತ
ಮಾಡಿದ ಎಂದು ಹೇಳುತ್ತಾರೆ. ಈ ಆಳ್ವಿಕೆ ಕ್ರಿ.ಶ 12ನೇ
ಶತಮಾನದವರೆಗೆ ಮುಂದುವರೆಯುತ್ತದೆ.

ಈಗಿನ ತೆಲಂಗಾಣದ ಭೂಪ್ರದೇಶವನ್ನು "ಬೆಂಗಿ ಚಾಲುಕ್ಯರು" ಎಂದು ಗುರುತಿಸಿಕೊಂಡ ಪ್ರಸಿದ್ಧರಾಗಿದ್ದರು ಇವರು ಕ್ರಿ.ಶ ೬ನೇ ಶತಮಾನದಲ್ಲಿ ೨ನೇ ಪುಲಕೇಶಿಯ ತಮ್ಮ ವಿಷ್ಣುವರ್ಧನ - ಸಾಮ್ರಾಜ್ಯದ ಭಾಗವನ್ನು ರಚಿಸಿಕೊಂಡರು. ಅಲ್ಲಿನ ಭೂಮಿಯ ಸೌಂದರ್ಯಕ್ಕೆ ತಮ್ಮ ಸಹೋದರನಾದ ಕೀರ್ತಿವರ್ಮನನ್ನೇ ರಾಜಪ್ರತಿನಿಧಿಯಾಗಿ ನೇಮಿಸಿದರು ಇವನು ಅಲ್ಲಿನ ಪೂರ್ವದ ಸ್ವಾತಂತ್ರ್ಯ ಭೂಮಿಗೆ ಕಾರಣವಾಗಿತ್ತಾನೆ.

ಇಂದಿನ ಭಾರತದ ಮಧ್ಯ ಪೂರ್ವ ಭಾಗದಲ್ಲಿ ತಮ್ಮ ಅಧಿಪತ್ಯ ವಿಸ್ತರಿಸಿದ ಚಾಲುಕ್ಯರು ಬಹಳಷ್ಟು ಪ್ರದೇಶಗಳಲ್ಲಿ ಸಣ್ಣ ಸಣ್ಣ ಪ್ರಾಂತ್ಯಗಳನ್ನು ಆಳಿದರು. ಪ್ರಮುಖವಾಗಿ ಪೂರ್ವ ಚಾಲುಕ್ಯರು ಇಂದಿನ "ತೆಲುಗು" ಎಂದು ಪ್ರಸಿದ್ಧವಾದ ಪ್ರದೇಶಗಳಲ್ಲಿ ಆಳ್ವಿಕೆ ಮಾಡಿದರೆಲ್ಲರೂ ಪಶ್ಚಿಮ ಚಾಲುಕ್ಯರ ಸಾಮಂತರಾಗಿದ್ದರು. ಇಲ್ಲಿ ಪೂರ್ವ ಚಾಲುಕ್ಯರ ಶಿಲ್ಪಕಲೆಗಳು ಹಿಂದೂ ದೇವಾಲಯಗಳನ್ನು ಕಾಣಬಹುದು.



Thole
ಐಹೊಳೆ

* ಐಹೊಳೆ :-

ಬಾಗಲಕೋಟೆ ಜಿಲ್ಲೆಯಲ್ಲಿರುವ ಮಲಪ್ರಭಾ ನದಿಯ ದಂಡೆಯಲ್ಲಿ "ಐಹೊಳೆ" ಎಂಬ ಪ್ರಾಚೀನ ಪಟ್ಟಣವಿದೆ. ಇದನ್ನು ಪ್ರಾಚೀನ ಕಾಲದಲ್ಲಿ ಆರ್ಯಪುರ ಎಂಬ ಹೆಸರಿನಿಂದ ಕರೆಯಲಾಗುತ್ತಿತ್ತು. ಐಹೊಳೆಯಲ್ಲಿ ಸುಮಾರು 99 ದೇವಾಲಯಗಳಿವೆ. ಈ ಕಾರಣದಿಂದ ಐಹೊಳೆಯನ್ನು "ದೇವಾಲಯಗಳ ತವರೂರು" ಎಂದು ಕರೆಯಲಾಗುತ್ತದೆ. ಇದನ್ನು ದೇವಾಲಯಗಳ ಮ್ಯೂಸಿಯಂ ಎಂದೂ ಕರೆಯುತ್ತಾರೆ. ಇಲ್ಲಿರುವ ದೇವಾಲಯಗಳಲ್ಲಿ ದುರ್ಗಾ ದೇವಾಲಯ, ಲಾಡ್‌ಖಾನ್ ದೇವಾಲಯ, ಮೇಗುತಿ ದೇವಾಲಯ, ಹುಚ್ಚಪ್ಪಯ್ಯನ ಗುಡಿ ಮತ್ತು ಸೂರ್ಯನಾರಾಯಣ ದೇವಾಲಯ ಪ್ರಮುಖವಾದವು. ಇಲ್ಲಿ ಕ್ರಿ.ಪೂ. 6-3ನೇ ಶತಮಾನದಲ್ಲಿ ಬಳಕೆಯಲ್ಲಿದ್ದ ಬೂದು ಬಣ್ಣದ ಮಡಿಕೆಗಳು ಉತ್ಖನನದಲ್ಲಿ ದೊರೆತಿವೆ. ಇದರಿಂದ ಐಹೊಳೆಯು ಪ್ರಾಚೀನ ನಾಗರಿಕತೆಯ ಕೇಂದ್ರವಾಗಿತ್ತು ಎಂಬುದು ತಿಳಿದುಬರುತ್ತದೆ.

ಇಲ್ಲಿ ಬಹುಭಾಗ ಕಲ್ಲುಗಳಿಂದ ಮಾತ್ರ
ಕಟ್ಟಲಾಗಿರುವ ಬಂಡೆಗಳನ್ನು ಗಮನಿಸಿ. ಮುಖ್ಯವಾದ ನೆಲಮಟ್ಟದಲ್ಲಿ
ಒಂದರ ಮೇಲೊಂದರಂತೆ ಇಟ್ಟಿಗೆ ಸಂರಚಿಸಿದ
ಬಂಧನ ಕೆಲಸಗಳಿದ್ದು ಕವಾಟುಗಳಲ್ಲಿ ಬಳಸಿರುವ
ಶಿಲಾಕೋಟೆಗಳ ಜೊತೆಗೆ ಇದು ಬಹಳ ಪ್ರಾಚೀನ
ರಚನೆ ಕೋಟೆಯೆಂದು ಹಾಗೂ ಕಂದಕ ಇರುವು
ದನ್ನು ಕಾಣಲು ಗಮನಾರ್ಹವಾಗಿದ್ದು. ಕೋಟೆ
ಯೆಂದು ಪ್ರವೇಶಿಸುವುದನ್ನು ಕಾಣಬಹುದು.

ಮಾದರಿಯಲ್ಲಿ :—

ಇಲ್ಲಿ ಸಾಮಾನ್ಯ 12.0 ಮೀಟರುಗಳಷ್ಟು
ಗೋಡೆ ಕಾಣಬಹುದು. ಇವನ್ನೆಲ್ಲ ಬೆಳಕಿಗೆ ಬರಲಿಕ್ಕೆ
ಗಳಲ್ಲಿ ಸಾಧ್ಯವಾಗಿದ್ದು ಪ್ರಾಚಿನಕಾಲದ ಮಾನ್ಯ
ಭಾವನೆಯಾಗಿದೆ. ಇವನ್ನು ಧೃಢವಾಗಿ ನಿಲ್ಲುವ
ಕೆಲವು ಮಾಳ್ಯ ಶೈಲಿಯಲ್ಲಿ ನಿರ್ಮಿಸಿದ್ದರಿಂದ
ಪ್ರವೇಶ ಮೀಟರುಗಳಿಗೆ ಕಾಲನ ಹೊಡೆತಕ್ಕೆ
ಕಿಕ್ಕಿ ಕಾಳಗವಿದೆ. ಕಲ್ಲುಹೇ ಮಾಸ್ಟಿಂ ಮ್ಯಾಲಿಯಂ
ಯಾಗಿದ್ದು ಹೆಸರಲ್ಲಿರುವ ಇತಿಹಾಸ ಪ್ರಜ್ಞೆಯಾ

ಕೆತ್ತನೆಯಿಂದ ಮತ್ತು ಸುಂದರ [illegible] ಅನೇಕ ಜನರು ಈ ಕ್ಷೇತ್ರಗಳನ್ನು ನೋಡಲು ಬಂದಾಗಲೂ ಶಿಲೆಗಳನ್ನು ಮುಟ್ಟಿ ನಾಶವಾಗಿದೆ ಎಂದು ಹೇಳಲಾಗಿದೆ.

ದೇವಾಲಯಗಳು

ಇಲ್ಲಿನ ದೇವಾಲಯಗಳ ನಿರ್ಮಾಣದಲ್ಲಿ ಜೈನರಿಂದ ಬೌದ್ಧರಿಂದ ಪ್ರಭಾವವು ಕಂಡು ಬರುತ್ತದೆ. ಹೆಚ್ಚಾಗಿ ದೇವಾಲಯಗಳನ್ನು ಹೊಂದಿತ್ತು ಸುಮಾರು ಇಲ್ಲಿ 22 ಪ್ರಮುಖವಾದ ಇವುಗಳಲ್ಲಿ ಹುಚ್ಚಿಮಲ್ಲಿಗುಡಿ, ಲಾಡ್‌ಖಾನ್, ಗೌಡ, ಹುಚ್ಚಪ್ಪಯ್ಯ ಮಠ, ದುರ್ಗಾ, ರಾವಳ, ಕೊಂತಿ, ಬ್ರಾಹ್ಮಣರ ದೇವಾಲಯಗಳು ಜೈನರ ಮೇಗುತಿ ದೇವಾಲಯ, ಬೌದ್ಧ ಇಂತಹ ಜೈನ ದೇವಾಲಯ ಪ್ರಮುಖ ಆಕರ್ಷಣೆ.

ಇಲ್ಲಿನ ದೇವಾಲಯಗಳ ಚಿತ್ರ ಶಿಲ್ಪಗಳಿಗೆ ಪ್ರಸಿದ್ಧವಾಗಿ ಇರುವ ಸಮುದಾಯದೊಂದಿಗೆ ನಿರ್ಮಾಣದಲ್ಲಿ ಬಾದಾಮಿ ಚಾಲುಕ್ಯರ ಕಾಲ.

Hampe
ಹಂಪೆ

ಹಂಪೆ

ಹಂಪೆ ಅಂದೆ ವಿಜಯನಾನಗರದ ಪ್ರಸಿದ್ಧ ರಾಜಧಾನಿಯಾಗಿತ್ತು. ಶಿಲ್ಪಕಲೆಗೆ ಹೆಸರಾದ ಈ ನಗರದ ಪಾಳುಬಿದ್ದ ದೇವಾಲಯಗಳನ್ನು ನೋಡಲು ಪ್ರತಿ ವರ್ಷ ಸಾವಿರಾರು ಜನರು ವಿದೇಶಗಳಿಂದ ಕೂಡ ಬರುತ್ತಾರೆ. ಇಲ್ಲಿ ಅನೇಕ ಸ್ಮಾರಕಗಳು ಪ್ರವಾಸಿಗರ ಮನಸೆಳೆಯುತ್ತವೆ. ವಿಜಯನಾನಗರ ಸಾಮ್ರಾಜ್ಯದ ತನ್ನ ಹೆಚ್ಚಿನ ವೈಭವವನ್ನು ಕೃಷ್ಣದೇವರಾಯನ ಆಳ್ವಿಕೆಯಲ್ಲಿ ಕಂಡಿತು. ಆತನ ಆಸ್ಥಾನದಲ್ಲಿ ಅಷ್ಟದಿಗ್ಗಜರೆಂದು ಪ್ರಸಿದ್ಧರಾದ ಎಂಟು ಜನ ಕವಿಗಳಿದ್ದರು. ಅವರಲ್ಲಿ ತೆನಾಲಿ ರಾಮಕೃಷ್ಣ ಕೂಡ ಒಬ್ಬನು. ಆತನ ಚತುರತೆಯ ಹಲವಾರು ಕಥೆಗಳು ಇಂದಿಗೂ ಜನಪ್ರಿಯವಾಗಿವೆ. ಹಂಪೆಯ ಪೂರ್ವಕ್ಕೆ ತುಂಗಭದ್ರಾ ನದಿ ಹರಿಯುತ್ತದೆ. ಇಲ್ಲಿ ಅನೇಕ ಸುಂದರವಾದ ಕಲ್ಲಿನ ದೋಣಿಗಳಿವೆ. ಇವುಗಳಲ್ಲಿ ಪ್ರವಾಸಿಗರು ನದಿಯಲ್ಲಿ ವಿಹಾರ ಮಾಡಬಹುದು.

ಹಾಗೆ ಸಳ್ಳಿ ಗಣೇಶ ಅಭಿತ್ತರದ ಬಿಗ್ರಹಣ್ಣ
ಮುಖ ಕೆನಾಡಾಂಡಾಹಾ ಮುಡಿ. ಖಾಲ್ಯಲ ಮೇಹಾಲ
ಎಂಬ ರಂಜಿಹಾಮಿನ ಗಾಡಿ ಬಲ್ಲಪ್ಪಾ ಚ್ಚಿಭ್ರಮಾಹಾ
ಗಿಮಿ. ಖಾರಲ ಮೇಹಾಲಂಮಾಡ ಹಾಂಮೆ ಮುಂಜೇ
ತಲೆಂಮಾಲ್ಲ ಕೆನಾಡಿಹಾಹ 26 ಓಡ ಎತ್ತರದ
ಕಲ್ಲುಬಡೆ ಗಹಹಾಲೆ. ಖಾಹಾನಿಖಾಮಿ. ಹಾಳ್ಬು. ಕಿಮಾಲ
ಖಾಹಾಲೆ. ಕಾಣಿಹಾನಾಡೇಂಬರ ಸ್ಯಾನಿಕ. ಖೇಲಿಕಿ.
ಭೂಂಡಿ. ಪ್ರಹಾನಿಗರನ್ನು ಆಕರ್ಷಿಸಾತ್ತಿವೆ ಹಾಗ್ಗಿ
ಹಾಂಮೆಂಬಾನ್ನು ಕಂಡಿಹಾಂಡಿ ಭಾಭುಂಹಾನಗರ ರತಹ್ಮೆ
ಭುವ ಕಣ್ಣಿಡಿ ಕೆಟ್ಟಿಹಾಂಡಾಗಿತ್ತಿವೆ.

ಅಕ್ಷರತೆ

ಸ್ಯಾಮೆಹಾಕಾ ಭುಂ ರಲ್ಲಿ ಹಾಂಮೆಡಿ ಛೇದಿ
ನಾಡಿಹ ಖಿಡಾಲಂಹಾನ್ ಹ್ಯಾಹಾಂಡಿ ಬಾತ್ತಾ ಪ್ರಾಂಹಾಲ್
ಕ ನಿಕಲೀಹಾಡಿ ಹಾಂಮಿ ಮೊಲ ಅಕ್ಷಡಿಂಪ್ರಿಗಳ್ಳಿ
ಲ್ಲಿ ನಿಗರಪ್ಪ ಅಂಹಾಡಿಯ ಕಂ ಮ್ಯೊಲಿಂಗಳ್ಳಿ (೫೨)
ಕಿಯ ಹಾತ್ತಿಳ್ಳತೆಂಬಾನ್ನು ಹೊಹಾಂಡಿಕ್ಕಿ ಬಾತ್ತಾ
ಖಿಡಾ ಕೃಷಿ ಬಾತ್ತಾ ಬಹಾಣಾತ್ತೋಗಳ್ಳನ್ನು ತನ್ನ
ಕೊಡತಿಗಳ್ಳಿಲ್ಲಿ ನಾತ್ತೊಬರಿಹಾಡಿ. ಭುಭ್ರಲ್ಲಿ
ಖಿತಿಹಂಬಾಹಾಂಡ ಛೇದಿ ನಾಡಿಹ ಕಿಡ್ಬಾಲ್.

ರಾಜಕೀಯ ಇದನ್ನು ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆಯ ಕೊಪ್ಪಳ ಜಿಲ್ಲೆಯನ್ನು ಹೊನ್ನಾವರಿಂದ ನಗರ ಎಂದು ಬಿಂಬಿಸಿದರು ಸ್ಥಳೀಯ ಚರಿತ್ರೆಯಲ್ಲಿ ಮಾತ್ರ ನಿಜಾಮನಿಗೆ ಹೆಸರಾದ ಪ್ರಾಚೀನ ಕೋಟೆಗಳನ್ನು ಹೊನ್ನಾವರಿಂದ ನಗರ ಎಂದು ಬಿಂಬಿಸಿದರು.

ಪಾರಾತ್ಮಕ ಶಾಸ್ತ್ರದ ಪ್ರಭಾವ-

ಹಂಪಿ ಮತ್ತು ಅದರ ಪರಿಸರದ ಪ್ರದೇಶವು 'ಕಿಷ್ಕಿಂಧೆ' ಪರಿಸರವಾಗಿದೆಯೆಂದು ಪ್ರಾಚ್ಯವಿದ್ಯೆ ಸಂಶೋಧಕರು, "ಪ್ಯಾಂಪಾಪತಿ" ಎಂಬ ಸ್ಥಳೀಯ ಸಂಸ್ಕೃತಿ ಮತ್ತು "ಪಾಂಪಾ ಕಾವ್ಯ" ಕ್ಕೆ ಹಂಪಿಯ ಪರಿಸರವೇ ಮೂಲ ಪ್ರೇರಣೆಯೆಂದು ಅಭಿಪ್ರಾಯಪಟ್ಟಿದ್ದಾರೆ.

1399 ರಲ್ಲಿ ಹಕ್ಕ ಮತ್ತು ಬುಕ್ಕರ ಪ್ರೇರಣೆಯಿಂದ ವಿದ್ಯಾರಣ್ಯರು ಮತ್ತು ಮಾಧವಾಚಾರ್ಯರು ರಾಜಮಂತ್ರಿಯಾಗಿದ್ದು ಸಂಗಮ ಸೋದರರಿಲ್ಲದಿದ್ದರೂ ಮತ್ತು ಹರಿಹರ ಬುಕ್ಕರಿಲ್ಲದಿದ್ದರೂ ನಂತರದ ಈ ಪ್ರದೇಶವು ಪ್ರೇರಣೆಯ ಪ್ರಭಾವಕ್ಕೆ ಒಳಗಾಗಿತ್ತು.

ಪ್ರಾಚೀನ ಭಾಷೆಯಾನ್ವಯ ಒಬ್ಬ ಪ್ರದೇಶದ ವಿಸ್ತಾರ ಸ್ಥಳ ಎಷ್ಟು. ಇಷ್ಟು ಈ ವಿಸ್ತಾರವಾಗಿದ್ದು ಈ ಪ್ರದೇಶವನ್ನು ಯಾರಿಂದಾಳಲ್ಪಟ್ಟಿತು ಎಂಬುದು ಇದಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಪ್ರಶ್ನೆಗಳು ಇಲ್ಲಿ ಇಲ್ಲಿ ಮಾತ್ರ ಪರಾಮರ್ಶಿಸಲಾಗಿದೆ. ಹೆಚ್ಚಿನ ವಿವರಗಳನ್ನು ಪಡೆಯಲು ಪರಾಮರ್ಶನ ಗ್ರಂಥಗಳನ್ನು ನೋಡಬಹುದು.

ಪೀಠಿಕೆ —

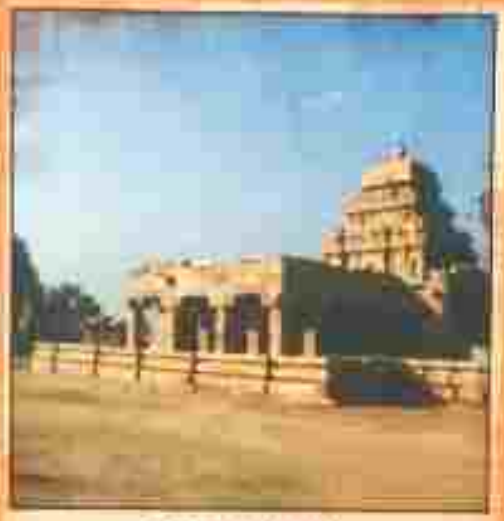
ಕ್ರಿ.ಶ 1324ರಲ್ಲಿ ವಿಜಯನಗರದ "ಹರಿಹರ ರಾಯ"ನ ಸಹೋದರ ಆಳ್ವಿಕೆಗೆ ಬಂದಿತ್ತು. ಕ್ರಿ.ಶ 1360ರಲ್ಲಿ ಮಾಧವನಿಂದ ನಿರ್ಮಿಸಲ್ಪಟ್ಟಿದ್ದ ವಿಜಯನಗರ ಸಾಮ್ರಾಜ್ಯ ಮೊದಲಿಗೆ ಆಳ್ವಿಕೆಗೆ ಬಂದಿತು. ನಂತರ ಕ್ರಿ.ಶ 1818ರ ಸಮಯದಲ್ಲಿ ಬ್ರಿಟಿಷರ ಆಳ್ವಿಕೆಗೆ ಒಳಪಟ್ಟಿತ್ತು. ನಂತರ ವಿಜಯನಗರವನ್ನು ಬ್ರಿಟಿಷ್ ಈಸ್ಟ್ ಇಂಡಿಯಾ ಕಂಪನಿಗೆ ಹಸ್ತಾಂತರಿಸಲಾಯಿತು.

ಕ್ರಿ.ಶ 1948ರಲ್ಲಿ ಭಾರತ ಮತ್ತು ವಿಜಯನಗರವನ್ನು "ಮೈಸೂರಿಗೆ" ಸೇರಿಸಲಾಯಿತು. ಬ್ರಿಟಿಷರಿಂದ ನಿರ್ಮಾಣಗೊಳ್ಳಲ್ಪಟ್ಟ "ಚೆನ್ನಪಟ್ಟಣ" ಜಿಲ್ಲೆಯ ಈಗಿನ ವಿಜಯನಗರ ಮತ್ತು "ಬಾಲಕೋಟೆ" ಜಿಲ್ಲೆಗಳು ಸೇರಲ್ಪಟ್ಟವು.

ಕಲಾದಗಿ ಜಿಲ್ಲಾ ಕೇಂದ್ರವನ್ನು ಕ್ರಿ.ಶ. 1885 ನೇ ಪಟ್ಟಾಭಿಷೇಕಕ್ಕೆ ಜಿಲ್ಲಾಧ್ಯತ ಪ್ರಾಪ್ತವಾಗಿ ಸೂಚನೆ ಮಾಡಲಾಯಿತು.

ಸಾಂಸ್ಕೃತಿಕ

ಮಧ್ಯ ಭಾಷೆ ಕನ್ನಡ ಆದರೆ ಅಲ್ಲಿಯ ಪ್ರಾದೇಶಿಕ ಪ್ರಭಾವದಿಂದಾಗಿ "ಅಡ್ಡಾ", "ಮಾರಾಳಿ" ಭಾಷೆ ಅತಿಶಯವಾದ ಕನ್ನಡ ಪದಗಳಿಂದ ಕನ್ನಡ ಪ್ರೇಮಿಗಳಿಗೆ ಬಾರಾತಿಸಲ್ಪಡುತ್ತಿದೆ. ಬಿಳೆಲುಂಡಿನ ಪೂಜ್ಯ ಮಠಗಳಲ್ಲಿ ಹೀನ ಆಚರಣೆ ಕೆಲವೊಂದಿದೆ. ಗ್ರಾಮಗಳಲ್ಲಿ ಕೇಳಿಬರುವ ಪದಗಳು ಬಿಳಿಗಳ್ಳಿ "ಹೊಲ್ಯ, ಸಕ್ಕೆ, ಹೇಂಗಾ, ಬಿಚ್ಚಿ, ಸಣಾಂಬ್ರಕಾಂತಿ, ಉಳ್ಳಾಗಡ್ಡಿ ಮುಂತಾದವುಗಳ ಪ್ರಾಪ್ತಿ. ಮಾಳಂಬಿ, ಅಂಬಿ, ರಾಣ್ಣಾಗಳ್ಳಿ ಬಿಳಿಯಾಳ್ಳು ಕಾರಣ ಪ್ರದೇಶಗಳಿಗೆ ಕಪ್ಪು ಗೊತ್ತಾಗಿದೆ.



Pattada Kallu
ಪಟ್ಟದ ಕಲ್ಲು

ಪಟ್ಟದಕಲ್ಲು —

ಪಟ್ಟದಕಲ್ಲು ಚಾಲುಕ್ಯರ ರಾಜಧಾನಿಯಾಗಿತ್ತು. ಇಲ್ಲಿಯವರೆಗೆ ಹಲವಾರು ದೇವಾಲಯಗಳು ಪತ್ತೆಯಾಗಿವೆ. ಅವುಗಳಲ್ಲಿ ವಿರೂಪಾಕ್ಷ, ಕಾಶಿ, ಜಂಬುಲಿಂಗೇಶ್ವರ, ಸಂಗಮೇಶ್ವರ, ಚಂದ್ರಶೇಖರ, ಮಲ್ಲಿಕಾರ್ಜುನ, ಪಾಪನಾಥ ಮತ್ತು ಮಲ್ಲಿಕಾರ್ಜುನ ದೇವಾಲಯಗಳು ಪ್ರಮುಖವಾಗಿವೆ. ಚಾಲುಕ್ಯರ ಕಾಲದಲ್ಲಿ ಅವರು ಶೈವ ಮತ್ತು ವೈಷ್ಣವ ಪಂಥಗಳೆರಡಕ್ಕೂ ಸಮಾನ ಪ್ರೋತ್ಸಾಹ ನೀಡಿದ್ದರು. ಚಾಲುಕ್ಯರ ಶೈಲಿಯಲ್ಲಿ ನಿರ್ಮಿಸಲಾದ ಈ ದೇವಾಲಯಗಳಲ್ಲಿ ಕೆಲವು ದೇವಾಲಯಗಳಲ್ಲಿ ರಾಮಾಯಣ ಮತ್ತು ಮಹಾಭಾರತದ ಪ್ರಸಂಗಗಳ ಸುಂದರವಾದ ಚಿತ್ರಣವನ್ನು ಕಾಣಬಹುದು.

* ಬೆಟ್ಟದಕಲ್ಲಿನ ಶಿಲಾಶಾಸನಗಳು

1) ವಿಕ್ರಮಾದಿತ್ಯ ಶೈವಸ್ಥಾನ:

ಕ್ರಿ.ಶ 8ನೇ ಶತಮಾನದಲ್ಲಿ ರಾಷ್ಟ್ರ ಕೂಟರಾಳಿದ್ದರು. ಅವರು ಪಶ್ಚಿಮ ಚಾಳುಕ್ಯರಿಂದ ದ ಬಲ್ಲವರ ವಿರುದ್ಧ ಜಯ ಪಡೆದು ಕಾಂಚೀಪುರದ ಐರವತಿಕೈಲಾಸವೆಂಬ ಶಿವಾಲಯವನ್ನು ನಿರ್ಮಿಸಿದರು ವಿರೂಪಾಕ್ಷ ಶೈವಾಲಯವಿರುವ ಪಟ್ಟದಕಲ್ಲಿನಲ್ಲಿ ಎರಡನೇ ಕೃಷ್ಣನ ಸೇನಾಧಿಪತಿ ಶಿಲ್ಪಿಗಳನ್ನು ನೇಮಿಸಿಕೊಂಡಿದ್ದಾಗಿದೆ.

* ಪಾಪನಾಥ ಶೈವಸ್ಥಾನ

7ನೇ ಶತಮಾನದ ಈ ದೇವಾಲಯವು "ರಾವಣಾಂತಿಕ" ಮತ್ತು "ಪಾಪನಾಥ" ಎಂಬ ಹೆಸರಿನಿಂದ ಪ್ರಸಿದ್ಧವಾಗಿದೆ.

* ಗಳಗನಾಥ ಶೈವಸ್ಥಾನ:

ಇಂಪ್ಪಕಾರ, ಎಂಬ ರಾಕ್ಷಸನನ್ನು ಶಿವನು ಸಂಹರಿಸಿದ ಸ್ಮರಣಾರ್ಥ ನಿರ್ಮಿಸಿದ 8ನೇ ಶತಮಾನದ ದೇವಾಲಯ.

RANI CHANNAMMA UNIVERSITY, BELGAUM

S.V.M ARTS SCIENCE AND COMMERCE COLLEGE

ILKAL – 587125

DEPARTMENT OF HINDI

A PROJECT REPORT ON

TOPIC ON "INTRUDUCTION OF POETS"

BACHELOR OF COMMERCE (BSc)

DURING THE ACADEMIC YEAR 2022-23

Submitted by :

MAHAMMAD KAIF

Reg No :U15IQ21S0030

Submitted to:

PROF. SMT. G. G. GANI

DEPARTMENT OF HINDI

जगदीशचन्द्र माथुर

जन्म → 16 जुलाई 1917

जन्म → खुर्जा, बुलंदशहर जीला, उत्तर प्रदेश

मृत्यु → 14 मई, 1978

कर्म क्षेत्र → नाटककार एवं लेखक

मुख्य → 'कोणार्क', 'शोर का तारा', 'भोर के सपने',
रचनाएँ 'पहला राजा', 'शारदीया' आदि।

भाषा → हिन्दी

विद्यालय → प्रयाग विश्वविद्यालय

शिक्षा → एम. ए.

सम्बन्धित → भारतीय

अन्य → परिवर्तन और राष्ट्र निर्माण के इतिहासिकी समय में जगदीशचंद्र माथुर, आईसीएस.

जगदीशचन्द्र माथुर —

जीवन परिचय

जगदीशचन्द्र माथुर का जन्म 16 जुलाई, 1917 ई. खुर्जा, बुलंदशहर जिला, उत्तर प्रदेश में हुआ। प्रारंभिक शिक्षा खुर्जा में हुई। उच्च शिक्षा सुरुचि किशोरन कालेज, इलाहाबाद और प्रयाग विश्वविद्यालय में हुई। प्रयाग विश्वविद्यालय का साहित्यिक वातावरण और प्रयाग के सांस्कृतिक संस्कार रचनाकार के व्यक्तित्व निर्माण में महत्वपूर्ण भूमिका है। 1939 ई. में प्रयाग विश्वविद्यालय से स्नातक (ऑनर्स) करने के बाद 1941 ई. में 'इण्डियन सिविल सर्विस' में चुन लिए गए।

कार्यक्षेत्र

सरकारी नौकरी में 6 वर्ष बिहार शासन के शिक्षा सचिव रूप में, 1955 से 1962 ई. तक आकाशवाणी - भारत सरकार के महासंचालक के रूप में, 1963 से 1964 ई. तक उत्तर बिहार (मिथिला) के कमिश्नर के रूप में कार्य करने के बाद 1963-64 में हार्वर्ड विश्वविद्यालय, अमेरिका में सिनियर फेलो नियुक्त होकर विदेश चले गए। वहाँ से लौटने के बाद विभिन्न महत्वपूर्ण पदों पर कार्य करते हुए 19 दिसम्बर 1974 ई. से भारत सरकार के हिंदी सलाहकार रहे। इन सरकारी नौकरियों में रहते हुए भी भारतीय इतिहास और संस्कृति को वर्तमान संदर्भ में व्याख्यायित करने का प्रयास चलता ही रहा।

कहानियाँ

→ आजादी एक दास / भुतनेश्वर
→ एक रात / भुतनेश्वर
→ जीवन की झलक
→ डाकमुंशी
→ दोहरी
→ भविष्य के गर्भ में
→ माँ बेटे
→ मास्टरजी
→ मेरी
→ लड़ाई
→ सूर्यपूजा
→ हाय रे दुर्दैव !

नाटक

अ→ श्यामः एक वैवाहिक विडंबना
ब→ प्रतिज्ञा का विवाह
स→ प्रतिज्ञा (अंकित)
द→ एक सम्राहीन साम्राज्ञी
य→ मुकाबिले के बाद

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ

ಶ್ರೀ ಸಂಗಣ್ಣ ಬಸಪ್ಪ ಗಬ್ಬಿ ಅವರ ಬದುಕು ಮತ್ತು ಬರಹ

ಈ ಯೋಜನಾ ಕಾರ್ಯದ ಕಿರುಪ್ರಬಂಧವನ್ನು ಎಂ.ಎ. ಸಾಲಿನ ಸೆಮಿಸ್ಟರ್‌ನ ಅಂತಿಮ ಭಾಷೆಗಾಗಿ ವಿಶ್ವವಿದ್ಯಾಲಯಕ್ಕೆ ಸಾದರಪಡಿಸಲಾಗಿದೆ.

: ಸಂಶೋಧನ ವಿದ್ಯಾರ್ಥಿನಿ :-

ರೇಣುಕವ್ವ ಫ. ಹರಿಜನ

ನೋಂದಣಿ ಸಂಖ್ಯೆ : ಪಿಗಿಜೀಬಮ್ಯಾ೨೧ಎ೦೦೨೧

: ಮಾರ್ಗದರ್ಶಕರು :

ಡಾ. ಮುರ್ತುಜಾ ಬ. ಒಂಟಿ

ಶ್ರೀ ವಿಜಯ ಮಹಾಂತೇಶ ಕಲೆ, ವಿಜ್ಞಾನ ಹಾಗೂ ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ,
ಕನ್ನಡ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗ ಇಂಚಲ- ೪೮೨೧೨೮

೨೦೨೨-೨೩

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ ಬೆಳಗಾವಿ

ಶ್ರೀ ಸಂಗಣ್ಣ ಬಸಪ್ಪ ಗದ್ದಿ ಅವರ ಬದುಕು ಮತ್ತು ಬರಹ

ಈ ಮೌಲಿಕ ಪ್ರಬಂಧವನ್ನು ಬಿ.ಎ. ಕನ್ನಡ ಸಾಹಿತ್ಯ ವಿಷಯದ ಅಂತಿಮ ವರ್ಷದ ಪದವಿ ತರಗತಿಗಳಿಗಾಗಿ ವಿಶ್ವವಿದ್ಯಾಲಯಕ್ಕೆ ಸಲ್ಲಿಸಲಾಗಿದೆ

-: ಸಂಶೋಧಕ ವಿದ್ಯಾರ್ಥಿನಿ :-

ರೇಣುಕವ್ವ ಫ. ಹರಿಜನ

ನೋಂದಣಿ ಸಂಖ್ಯೆ : ಬಿಗಿಐಕ್ಯೂಎಂಎಂಎಂ

-: ಮಾರ್ಗದರ್ಶಕರು :-

ಡಾ. ಮುತ್ತುರಾಜ ಬಿ.ಒಂಟಿ

ಸಹಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರು

ಶ್ರೀ ವಿಜಯ ಮಹಾಂತೇಶ ಕಲೆ, ವಿಜ್ಞಾನ ಹಾಗೂ ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ,

ಕನ್ನಡ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗ ಇಲಕಲ್ಲ- ಶಿರಬಿಗಿವಿಗ

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ದೃಢೀಕರಣ ಪತ್ರ

ಕುಮಾರಿ ರೇಣಾಕ್ಕ ಛ.ಹರಿಜನ ಅವರು ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯದ ಕನ್ನಡ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗದಲ್ಲಿ ಪಾಲ್ಘಾಟ್ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಓದುತ್ತಿದ್ದು ವಿಶ್ವವಿದ್ಯಾಲಯದ ನಿಯಮಾವಳಿಯಂತೆ ಇವರು ಅರಸೀ ಶಕ್ತಿಕೇಂದ್ರ ಸಿ "ಶ್ರೀ ಸಂಗಣ್ಣ ಬಾಪ್ಪ ಗದ್ದಿ ಅವರ ಬದುಕು ಮತ್ತು ಬರಹ" ಎಂಬ ವಿಷಯದ ಮೇಲೆ ಡಾ.ಮಲ್ಲಿಕಾರ್ಜುನ ಬಿ.ಒಂಟಿ ಅವರ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ಅಧ್ಯಯನ ಕೈಗೊಂಡು ಯೋಜನಾ ಕಾರ್ಯದ ಕಿರುಪ್ರಬಂಧವನ್ನು ವಿಶ್ವವಿದ್ಯಾಲಯಕ್ಕೆ ಸಲ್ಲಿಸಲಿದ್ದಾರೆಂದು ಈ ಮೂಲಕ ದೃಢೀಕರಿಸಲಾಗಿದೆ.

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(Affiliated to RCU Belagavi)

A PROJECT REPORT ON

"APPLICATION OF THE FIRST ORDER DIFFERENTIAL EQUATION"

[SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE]

MASTER OF SCIENCE IN MATHEMATICS

DURING THE YEAR

2022-2023

SUBMITTED BY

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Miss. ARSHIYA BAGAYAT	P15IQ21S0011
Miss. VIDYA .K. DINNI	P15IQ21S0014
Smt. SHREEDEVI. PUJAR	P15IQ21S0004
Smt. ASHWINI.G.KAMMAR	P15IQ21S0012

UNDER THE GUIDANCE OF

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(Affiliated to RCU, Belagavi)

A PROJECT REPORT ON

"APPLICATION OF THE FIRST ORDER II DIFFERENTIAL EQUATION"

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE

MASTER OF SCIENCE IN MATHEMATICS

DURING THE YEAR
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CERTIFICATE

This is to certify that

Smt. SUNITHA K.P.	P150Q15[illegible]
Miss. SREEKYA. BAGAYAT	P150Q15[illegible]
Miss. VIDYA K. DIVTE	P150Q15[illegible]
Smt. [illegible]	P150Q15[illegible]
Smt. [illegible]	P150Q15[illegible]

are bonafide students of the Department of Mathematics during the academic year 2022-23 and They are satisfactorily completed the project work entitled **"APPLICATION OF THE FIRST ORDER DIFFERENTIAL EQUATION"** submitted in partial fulfillment for the requirements of the award of the degree of Master of Mathematics awarded by the Rani Channamma University.

REKHA DHANASHETTI	RAVIKUMAR KURNAL	DR.S.SAWATI
Project guide	Co-Ordinator	Principal

Co-ordinator
Department of Post Graduate Studies
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PRINCIPAL
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Examiners: 1.....

2.....

GUIDE CERTIFICATE

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Miss. VIDYA K. DINNI	P15IQ21S0014
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are bonafide student of the Department of Mathematics, completed their concurrent project, entitled **"APPLICATION OF THE FIRST ORDER DIFFERENTIAL EQUATION"** under my guidance and the project has not previously formed the basis for the award of any degree, diploma, associatedship or similar other title.

Place : Ilkal
Date :

Mrs. REKHA. DHANSHETTI
faculty. SVM College Ilkal

DECLARATION

We Smt. Sunita K. E. Miss. Arshiya Bagayat, Miss. Vidya K. Dinni, Smt. Shreedevi Pujar, Smt. Ashwini Kammar, hereby declare that the project report entitled **"APPLICATIONOF THE FIRST ORDER DIFFERENTIAL EQUATION"** is a record of independent project work carried out by us under the supervision of internal guide **Miss. Rekha Dhanashetti** faculty, Department of Mathematics. This has not been previously submitted for the award of any Degree, Diploma, associatedship or any other similar titles in RANI CHANNAMMA UNIVERSITY and any other institutions.

Student Name	Register No	Signature
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Date:

ACKNOWLEDGEMENT

The satisfaction that accompanies in the successful completion of this project will truly remain unfulfilled without the mention of all those people who made it possible.

We express our sincerely Thanks to the principal **Dr. S.S.AWATI** SVM Arts, Science and Commerce College, Ilkal-587125 for his encouragement during the entire span of our project.

We would like to express our immense gratitude to our co-ordinator Mr. **RAVIKUMAR KURNAL,** Department of PG Studies for their encouragement during the entire span of our project.

We are very much grateful to my internal guide **Miss. REKHA DHANSHETTI** faculty Department of mathematics, whose continuous guidance & encouragement has made this project report possible.

We would also like to thank the other entire faculty members and also non-teaching staff who have directly or indirectly helped us to complete this task.

Last but not the least we would like to render our deep sense of gratefulness to our beloved parents and all our friends who have extended their co-operation for the successful completion of this project work.

Smt. SUNITHA.K. E.
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Smt. ASHWINI.KAMMAR

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Project Report

KVM's Vasantrao

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COLLEGE, JERAG (MS) 413

TITLE

"Diet to combat hypertension"

Submitted by,

Name: Nethravati D Madivalara

Class: BSc VI Sem

Seat Number: 2104679

GUIDED BY,

DR. G. M. KALLIMANI M.Sc., M.Phil., Ph.D.

HEAD, DEPARTMENT OF ZOOLOGY

VIDYASANGAMA

This is to certify that Miss/Mr Nidhyashri S.M has satisfactorily Completed the project work on **Zoology** for The year 2022-23 prescribed by the **Rani Channamma University Belagavi.**

Project Supervisor

(Dr.G.M.Sajjanar)

Head,Dept.of Zoology

16.08.23

(Dr.G.M.Sajjanar)

VALUED

Acknowledgement

We the student of B.Sc.VI semester CBZ are grateful to **Dr.G.M.Sajjanar** (H.O.D of *Zoology*) for giving suggestions and encouragement during conduct of our project work.

FOREST ECOSYSTEM

INTRODUCTION

- A forest ecosystem consists of both forests and resources.
- Forests are naturally renewable resources.
- The trees, shrubs, herbs, climbers, and ground cover that make up a forest are architecturally distinct from one another.
- Soil, animals, insects, bacteria, and birds are the forest ecosystem's most essential interacting components.
- Forests cover around 18-20% of India's total land area.

TYPES FOREST ECOSYSTEM:

1. CONIFEROUS FOREST (BOREAL FOREST)

- Located in the Northern Hemisphere, south of the tundra, are the evergreen coniferous forests known as the Boreal.
- They cover 20 million acres and stretch without a break across Europe, Asia, and North America, making them the world's second-largest biome.
- The United States only contains 11% of the world's boreal forest, whereas Canada has 24%.
- The snow forest, or Taiga, is another name for this forest.
- Days are short and the winters are long and brutal.

2. TEMPERATE DECIDUOUS FOREST

- Biomes are grouped together due to their defining characteristics; temperate deciduous woods are classified as such because they experience all four seasons and the trees shed their leaves in the fall and winter.
- Deciduous forests are found in the transition zone between temperate zones and tropical regions.
- Therefore, the climate of this biome is influenced by air masses from both biomes.
- Largest deciduous forests may be discovered in the Northern Hemisphere, which includes much of Asia, Europe, and North America.
- Although deciduous forests can be found in the Southern Hemisphere, they are often significantly smaller than their Northern counterparts.

TEMPERATE EVERGREEN FOREST

- During the Cenozoic, temperate evergreen forests first appeared.
- There are temperate evergreen forests in both hot and cold temperature zones.
- The density of evergreen trees prevents sunlight from reaching the ground.
- They contain an assortment of autotrophs and heterotrophs.
- There are temperate evergreen forests in both the northern and southern hemispheres.
- Temperate evergreen woods are located in milder, more equatorial temperatures than temperate deciduous forests.
- Consequently, it is found in North America, Canada, Europe, and Asia.

TROPICAL RAINFORESTS

- In terms of species variety and structural complexity, the tropical rainforest is the most complex ecosystem on Earth.
- It flourishes best under optimal growing circumstances, which include of abundant rainfall and year-round warmth.
- The World Wildlife Fund has designated tropical rainforests as Tropical Moist Broadleaf Forest.
- Around 28 degrees north or south of the equator, tropical rain forests can be found in Asia, Australia, Africa, South America, Central America, Mexico, and various Pacific Islands.
- They cover approximately 6-7 percent of the planet's surface and are home to fifty percent of its biodiversity.

TEMPERATE RAINFORESTS

- A biome characterised by a temperate climate is a temperate rainforest.
- Simply speaking, temperate rainforests receive more rainfall than tropical rainforests but have a lower average temperature.
- There are temperate rainforests in numerous temperate locations.
- The Pacific coast of North America contains the greatest temperate rainforests in the world.

SUBTROPICAL RAINFORESTS

- Subtropical rainforests combine characteristics of tropical and temperate rainforests.
- The dense vegetation extends a few feet above the ground, making it difficult to traverse the woodland.
  The dense vegetation extends a few feet above the ground, making it difficult to traverse the woodland.
- The Subtropical Rainforest is home to more than fifty percent of the plant and animal species in the planet.

- Subtropical rainforests are located outside of the exact equatorial region, but within or immediately next to the tropical zone, and exhibit more dramatic seasonal changes.
- Subtropical rainforests exist in Central America, the West Indies, India, Madagascar, mainland Southeast Asia, and the Philippines.

TROPICAL SEASONAL FORESTS

- In regions with a lengthy dry season, a tropical seasonal forest grows.
- The degree of defoliation that occurs during the dry season is dependent on the severity of the water deficit.
- The forest has fewer tree strata and richer climbing and herbaceous plant growths than the tropical rainforest.
- Seasonal tropical forests are distinguished by the fact that only certain tree species shed some or all of their leaves during the dry season.
- They are also known as moist deciduous, semi-evergreen seasonal, tropical mixed, and monsoon forests.

TROPICAL EVERGREEN RAINFOREST

- Only a small proportion of tropical woods get annual precipitation averaging between 80 and 400 inches.
- This forest is distinguished by its deep and dense vegetation, which consists of tall trees of varying heights.

TROPICAL DECIDUOUS RAINFOREST

- In a tropical deciduous rainforest, broad-leaved trees and dense bushes, shrubs, etc. are the most prominent features.
- There are two main seasons, summer and winter, that are clearly discernible.
- his type of forest is widespread across the globe.
- There is an abundance of plants and fauna here.

TAIGA/BOREAL

- Located just south of the Tundra, the Taiga is dominated by evergreen conifers.
- Almost half of the year has an average temperature below the freezing mark.

MIXED FORESTS

- Mixed forests consisting of deciduous and coniferous trees are primarily found in mountainous regions.
- These can be found in nearly every corner of the globe.

MEDITERRANEAN FORESTS

- They are also known as scrublands because their climate is conducive to the growth of small oaks and pines.
- The Mediterranean forest is home to numerous species of wildflowers and birds that feed on insects.
- This woodland is also known by the term "maquis."

...ENTS OF FOREST ECOSYSTEM

...ic Components

... Components of the forest include inorganic and organic soil ..., temperature, precipitation, light, etc.

- **Nutrient Cycle:** The nutrition cycle is a cyclical process. For ...osystems to function properly, nutrients are essential. 95% of the ...ass of living beings is composed of carbon, hydrogen, oxygen, and ...nitrogen. Approximately 15 to 20 additional components are required ...in relatively tiny concentrations. These are continuously recycled ...between living and nonliving components of an ecosystem.
- **Energy Flow:** In a forest environment, grass, which derives its ...nourishment from the sun, soil, and water, is consumed by ...grasshoppers, which are in turn consumed by frogs, snakes, and ...vultures (different trophic levels). In this process of eating and being ...eaten, nutrients are transferred from one level of a food chain to the ...next. Energy flow is the flow of energy that occurs along a food chain. ...The energy pyramid illustrates the total amount of energy at each ...trophic level of a food chain. The flow of energy is unidirectional at ...all times.

...Components

...consumers, and decomposers are all examples of Biotic Components.

- **Producers**: The photosynthetic mechanism enables producers to create their own food. ...All green plants are considered producers of the ecosystem because they convert solar ...energy into chemical energy that may be used to create food.
- **Primary Consumers**: Since customers are unable of preparing their own food, they rely ...on producers. Herbivorous animals obtain their nourishment by directly consuming the ...producers (plants). Primitive consumers include grasshoppers, deer, etc.
- **Secondary Consumers**: Primary consumers provide the food for secondary consumers.
- **Decomposers**: The decomposers of the forest ecosystem decompose dead plants and ...animals and return the nutrients to the soil so that the producers can use them. In addition ...to bacteria, termites, and ants are significant decomposers in the Amazon jungle. ...Millipedes and earthworms also aid in decomposing organic materials.

...ACTERISTICS OF FOREST ECOSYSTEM:

- **Seasonal variation:** The forest ecology of a specific region is dependent on the ...annual fluctuation of the nation in which the forest is located. In contrast, ...temperate woods experience four distinct seasonal changes.
- **Deciduous or evergreen in nature:** A forest environment may consist either ...deciduous or evergreen trees, or both. A deciduous forest's trees lose their leaves ...throughout the winter, but evergreen trees always retain theirs.
- **Canopy layer structure:** The canopy layer is one of the most defining features of ...a forest ecosystem. Various species are protected by the dense canopy layers, ...which operate as a barrier against wind, rain, snow, etc. Some forest ecosystems, ...such as rainforests, are distinguished by distinct canopy levels, including treetops, ...upper canopy layer, lower canopy layer, and forest floor.

- **Attract shelter-seeking bird species:** the forest ecosystem offers the most optimal settings for diverse bird species. As a result, these animals are drawn to the forest habitat and seek refuge among trees.
- **Attract insects & give habitat:** The woodland environment is teeming with a vast assortment of insects. In the forest ecology, these insects discovered a vast array of shelter alternatives. Therefore, these insects are drawn to the natural habitats that the forest ecology provides.
- **Fertility of the soil:** The soil of forest habitats varies in its fertility. For instance, the soil of temperate and tropical deciduous woods is particularly fertile and rich in nutrients, but the soil of boreal forests is predominantly acidic due to the decomposition of conifer needles. In the case of tropical rainforests, soil fertility is depleted as a result of continual nutrient leaching produced by excessive rainfall.

Forests are the natural gift that mother Earth has bestowed upon us. As a result of pollution and deforestation to satisfy our demands, the world's forests are sadly being destroyed. It is time to remember the significance of forest ecosystems to the environment. Also remember how you may help conserve millions of plant and animal species by protecting the forest environment.

FUNCTIONS OF FOREST ECOSYSTEM

- **Goods Obtained from Forests:** Products Obtained from Forests. There are numerous forest-obtained food products, including honey, wild meat, fruits, mushrooms, palm oil and wine, as well as medicinal herbs. In addition to edible components, forests provide us with timber, wood biomass, cork, etc. Old trees that are buried in the ground can be used as a source of fuel.
- **Ecological Functions:** Forests play a crucial role in the maintenance of ecological elements such as climate, carbon storage, nitrogen cycle, and precipitation.
- **Culture and Social Benefits:** Forest-dwelling tribes revere forests as goddesses of nature. The spirituality and traditional beliefs protect wild animals from hunters and urban tree cutting. Few contemporary individuals visit forests for enjoyment.

ECONOMIC IMPORTANCE OF FOREST ECOSYSTEM:

- In a few of nations, forests contribute nearly 100 percent of the gross domestic product. In a number of developing nations, woods provide between ten million and thirty to forty million formal and informal jobs.
- Forests contain several medicinal herbs that have been used for centuries. In addition, the governments of numerous nations export these herbs for trade and profit. Several scientists are responsible for investigating the advantages and disadvantages of bound herbs, the properties of their edges, and their beneficial applications.

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DEPARTMENT OF CHEMISTRY

FOR THE YEAR : 2022 -23

Seminar On

Vitamins

SUBMITTED BY : Tippanna.Y.Kodatageri

REGISTER NUMBER : U15IQ2250014

CLASS : BSC 2ND SEM

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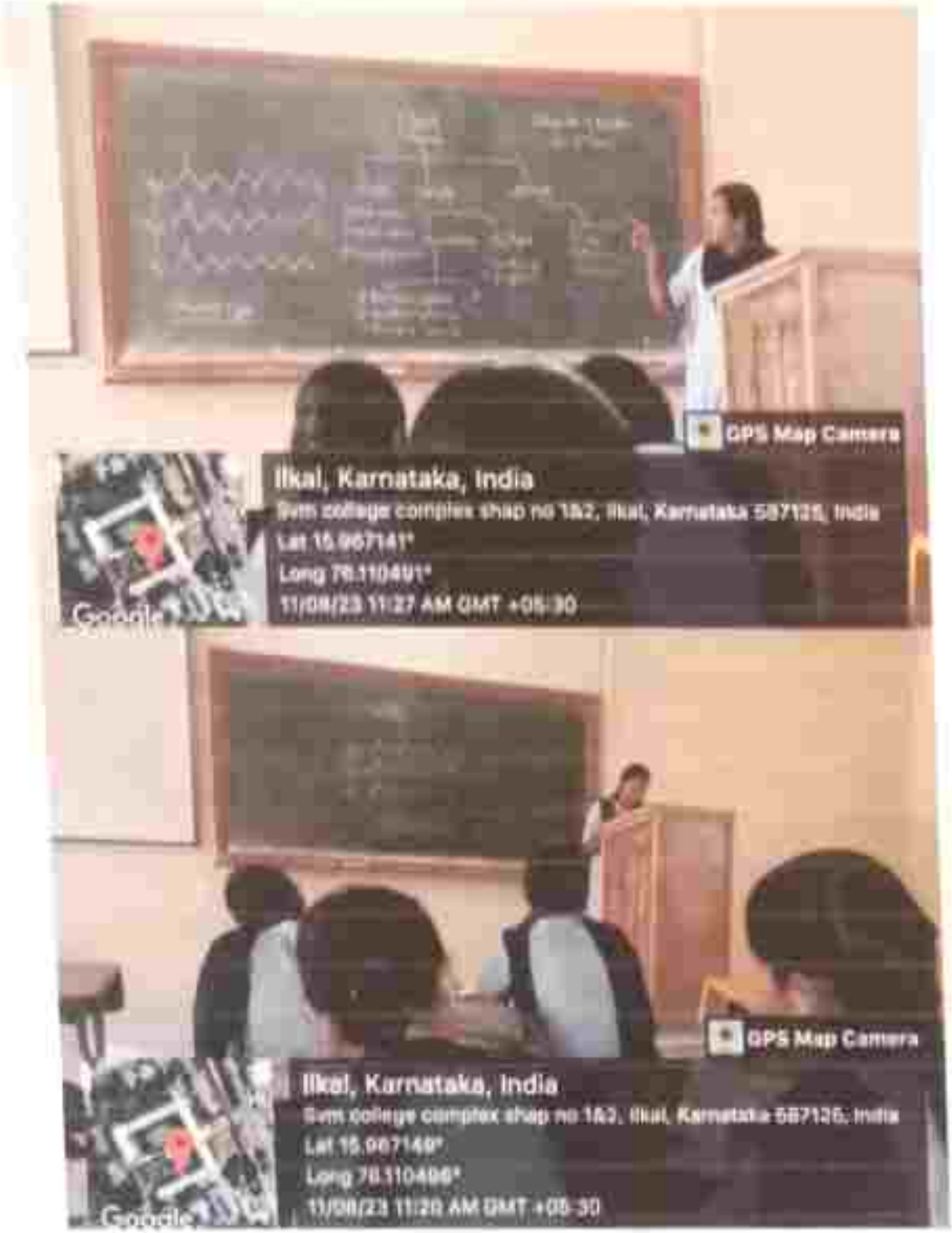
Today at 9:25 AM



Vitamins :-

Vitamins are a group of organic nutrients of various nature required in small quantities for multiple biochemical reactions for the growth, survival and reproduction of the organism, and which generally cannot be synthesized by the body and must therefore be supplied by the diet.

There are 13 vitamins our body needs they are,

01) Vitamin-A 02) Vitamin B1 03) Vitamin B2
04) Vitamin B3 05) Vitamin B5 06) Vitamin B6
07) Vitamin B7 08) Vitamin B9 09) Vitamin B12
10) Vitamin C 11) Vitamin D 12) Vitamin E
13) Vitamin K

We can usually get all your vitamins from the foods we eat. Our body can also make Vitamins D and K. People who eat a vegetarian diet may need to take a Vitamin B12 supplement. Each vitamin has specific jobs. If you have low levels of certain vitamins, you may get health problems. For example, if you don't get enough Vitamin C, you could become anaemic. Vitamin A prevents night blindness. The best way to get enough vitamins is to eat a balanced diet with a variety of foods. In some cases, you may need to take vitamin supplement. It's a good idea to ask your health care provider first. High doses of some vitamins can cause problems.

The most important function of the vitamin is to serve as coenzyme for enzymatic reactions. The discovery of the vitamins began with experiments performed by Hopkins at the beginning of the twentieth century. He feed rats on a diet with a diet providing the three nutrients.

fats, proteins, carbohydrates and mineral salts. The animals fed to gross, but the addition of a small amount of milk to diet the both permitted the animals to maintain normal growth and restored growth to the animals that had previously been fed the defined diet. He suggested that milk contained one or more accessory growth factors essential nutrients present in small amounts, because the addition of only a small amount of milk to the diet was sufficient to maintain normal growth and development.

Classification of Vitamins:-

Vitamins are generally classified as water-soluble vitamins and fat soluble vitamins.

1) Water soluble Vitamins:-

Vitamins in B-group and vitamin C are water soluble and cannot be stored in our bodies as they pass with the water in urine. These vitamins must be supplied to our bodies with regular diets.

2) Fat soluble Vitamins:-

Vitamin A, D, E and K are fat-soluble. These are stored in adipose tissue and hence are called fat soluble vitamins.

Vitamin A ⇒ Retinol

Vitamin A or retinol is the immediate precursor to two important active metabolites, retinal which plays significant role in vision and retinoic acid, which serves as the intracellular messenger that affects transcription of a number of genes. Vitamin A does not occur in plants, but many plants contain carotenoids such as beta-carotene.

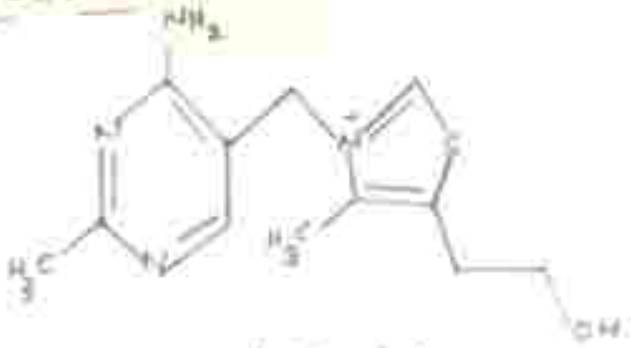
Structure :-

Retinol.

Vitamin B1 => Thiamine

Vitamin B1 or as chemically named as thiamine, is a water soluble vitamin and one of the eight vitamins of the B complex. It is not produced in the body and needs to be taken in the form of diety food options or as supplements. It facilitates the body in breaking down food i.e complex carbohydrates into simple form of sugar i.e glucose, fats and proteins which in turn provides energy for carrying out various bodily activities.

Structure :-



Thiamine

Vitamin C => Ascorbic acid.

Vitamin C also known as ascorbic acid is an essential nutrient in many multicellular organisms, especially in humans. Ascorbic acid is water soluble vitamin and is found in variable quantities in fruits and vegetables and organ meats. Deficiency of vitamin C causes scurvy, widespread connective tissue weakness and capillary fragility.

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NAME : KRISHNA CHAVHAN

REG. NO : A1678037

CLASS : BA (6TH SEM)

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TITLE : SEMINAR ON JNYNAPEETA PURSKAR

SUBMITTED TO

B M RATHOD

SUBMITTED BY

KRISHNA CHAVHAN

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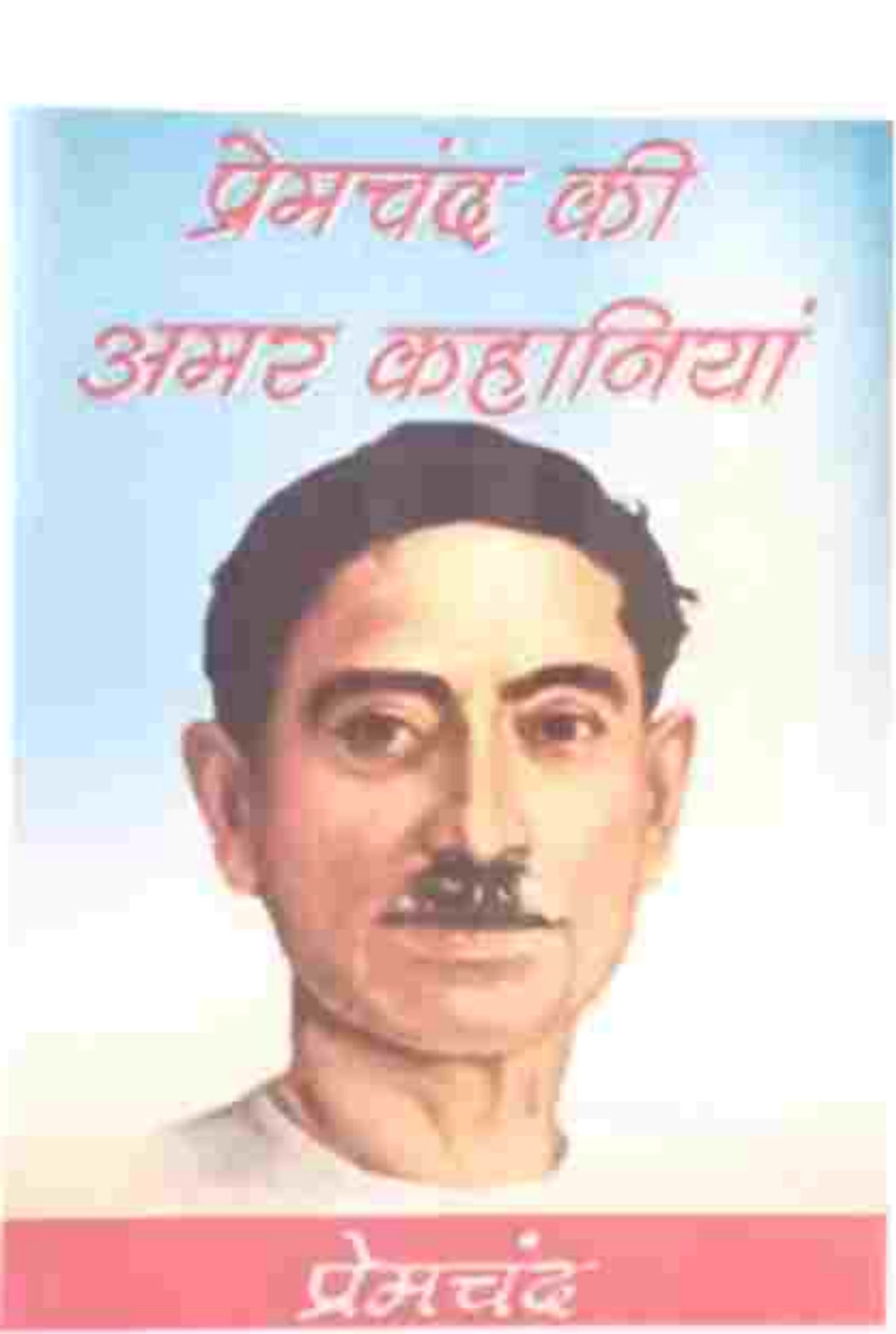

प्रेमचंद

महादेवी वर्मा - 1982

महादेवी की गणना इस युग के सर्वश्रेष्ठ कवियों - प्रसाद, निराला, पंत के साथ होती है। इनके "नीरजा" पर "सेकसरिया पुरस्कार" "प्राप्त" है। "आधुनिक कवि" आदि रचनाओं पर मंगलाप्रसाद पारितोषिक प्रदान किया गया। इनकी सेवाओं से सम्मानित होकर प्रयाग विद्यापीठ ने इन्हें महादेवी की उपाधि से विभूषित किया। महादेवी के काव्य ग्रंथ - नीहार, रश्मि, नीरजा, सान्ध्यगीत और दीपशिखा उनके उपरान्त काव्य संग्रह रहस्यवाद के अंतर्गत आता है।

सच्चिदानंद हिरानंद आज्ञेय - 1978

पिता हीरानंद शास्त्री। संस्कृत फारसी और
अंग्रेजी के ज्ञाता। इनकी कोश ग्रंथ इस
प्रकाश है। मग्नदुत चिंता, इत्यनम ही
घोष पर ऋषा भाष वाक्य अहंशी
इंद्र धनु शक्ति छप थ। अशी ओ
कविता प्रभाम थ, अनंत के त्राश
पर आदि अशेष जी हिन्दी के
शिखतम और गंभीरतम साहित्यकारों
में थे। वे सफल पत्रकार
और अनेक भाषाओं की

अमरकांत के हिंदी कथा साहित्य में
प्रेमचंद के बाद यथार्थवादी धारा के
प्रमुख कहानीकार के रूप में शुमार किए
जाते हैं। साहित्य अकादमी और ज्ञानपीठ
के अलावा उन्हें सोवियत लैंड नेहरू
पुरस्कार, मैथिलीशरण गुप्त सिद्धि
पुरस्कार, यशपाल पुरस्कार जैसे अनेक
सम्मानों से नवाज जा चुका था।
उपन्यास : इन्हीं हथियारों से, आकाश पक्षी
काले उजले दिन सुन्नर, सोवियत
लैंड नेहरू पुरस्कार मैथिलीशरण
गुप्त राष्ट्रीय पुरस्कार यशपाल पुरस्कार
साहित्य (पुरस्कार) (उपन्यास) अकादमी
सम्मान आदि सम्मान, ज्ञानपीठ पुरस्कार,

श्रीलाल शुक्ल

बीसवीं सदी के उत्तरार्द्ध के हिंदी साहित्यकारों में मान जानेवाले श्रीलाल शुक्ल अपनी विशिष्ट कथन भंगी, व्यंग्य का उद्दीपन (लक्ष्मी) मारक वाली वक्रोक्तिपूर्ण भाषाशैली और देश के समकालीन - राजनितिक जीवन की विसंगतीयों की पहचान इनी साहित्य यात्रा की घाटी का जादू, शीमारक टूटती हुई मान्यता पहला विक्रमशील साहित्य भूषण पुरस्कार साहित्य अकादमी पुरस्कार, मरा भारती पुरस्कार मध्यप्रदेश सरकार मैथीलीशरण गुप्त सम्मान व्यास सम्मान ज्ञानपीठ पुरस्कार.

और यही कारण था कि बालक
धनपत हर-आगन से भागकर
बाहर खुले मैदान में अमराई
में खेतों की तरफ निकल
जाता था। रचाखियां कौड़ियाँ चुनना
था। मटर की फलियाँ तोड़ता
था। दूर्वा किन बातान था।

ಶ್ರೀ ವಿಜಯ ದುಕಾಂಬೇಕರ ಕಲೆ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ ಬೈಲಹೊಂಗಲ

Re-Accredited With "B++" Level By NAAC Under CGPA Affiliated to Rani Chennamma University,Belagavi

2022-23

ಸೆಮಿನಾರ್

ವಿಷಯ:-

ಜಾಗತೀಕರಣ:ಅರ್ಥ,ವಿವರಣೆ,ಲಕ್ಷಣಗಳು,ಅನುಕೂಲ ಮತ್ತು ಅನಾನುಕೂಲಗಳು

ಮಾರ್ಗದರ್ಶಕರು

ಡಾ. ಶ್ರೀ ಎಮ್.ಎಸ್.ಮೀರ್ಜಿಕರ

ಹೆಸರು:-ಹನುಮೇಶ.ಬಿ.ಬಡ್ಡಿಕಿ

ವರ್ಗ:- ಬಿ.ಎ.ಬಿ ನೇ ಸೆಮಿಸ್ಟರ್

ನೋಂದಣಿ ಸಂಖ್ಯೆ:-U15IQ22A0082

ವಿಭಾಗ:-ಅರ್ಥಶಾಸ್ತ್ರ

ಪ್ರಾಯೋಗಿಕ ಕೌಶಲ್ಯಗಳು

1) ಪ್ರಾಯೋಗಿಕ ಕೌಶಲ್ಯವು ಪ್ರಾಯೋಗಿಕ ಚಟುವಟಿಕೆಗಳನ್ನು ಪೂರ್ಣಗೊಳಿಸಲು ಅಗತ್ಯವಿರುವ ಕೌಶಲ್ಯಗಳ ಸೆಟ್ ಅನ್ನು ಸೂಚಿಸುತ್ತದೆ. ಈ ಕೌಶಲ್ಯಗಳು ಪ್ರಯೋಗಾಲಯ ಸೆಟ್ಟಿಂಗ್‌ನಲ್ಲಿ ಉಪಕರಣಗಳು, ಉಪಕರಣಗಳು ಮತ್ತು ಸಾಮಗ್ರಿಗಳನ್ನು ಸುರಕ್ಷಿತವಾಗಿ ಮತ್ತು ಪರಿಣಾಮಕಾರಿಯಾಗಿ ನಿರ್ವಹಿಸುವ ಮತ್ತು ಬಳಸುವ ಸಾಮರ್ಥ್ಯವನ್ನು ಒಳಗೊಂಡಿರುತ್ತವೆ. ಪ್ರಾಯೋಗಿಕ ಕೌಶಲ್ಯಗಳು ಪ್ರಾಯೋಗಿಕ ಕಾರ್ಯಗಳನ್ನು ನಿಖರವಾಗಿ ಮತ್ತು ನಿಖರವಾಗಿ ನಿರ್ವಹಿಸುವ ಸಾಮರ್ಥ್ಯವನ್ನು ಸಹ ಒಳಗೊಂಡಿರುತ್ತವೆ.

2) ಪ್ರಾಯೋಗಿಕ ಕೌಶಲ್ಯಗಳು ಪ್ರಯೋಗಾಲಯ ಸೆಟ್ಟಿಂಗ್‌ನಲ್ಲಿ ಪ್ರಾಯೋಗಿಕ ಕಾರ್ಯಗಳನ್ನು ಪೂರ್ಣಗೊಳಿಸಲು ಅಗತ್ಯವಾದ ಕೌಶಲ್ಯಗಳಾಗಿವೆ. ಈ ಕೌಶಲ್ಯಗಳು ಸಲಕರಣೆಗಳನ್ನು ಸರಿಯಾಗಿ ಬಳಸುವುದು, ಮಾದರಿಗಳನ್ನು ತಯಾರಿಸುವುದು, ಡೇಟಾವನ್ನು ರೆಕಾರ್ಡ್ ಮಾಡುವುದು ಮತ್ತು ಸುರಕ್ಷಿತ ಕೆಲಸದ ಅಭ್ಯಾಸಗಳನ್ನು ಅನುಸರಿಸುವುದು ಒಳಗೊಂಡಿರಬಹುದು. ಪ್ರಾಯೋಗಿಕ ಕೌಶಲ್ಯಗಳು ಪ್ರಾಯೋಗಿಕ ಕಾರ್ಯಗಳನ್ನು ನಿಖರವಾಗಿ ಮತ್ತು ನಿಖರವಾಗಿ ನಿರ್ವಹಿಸುವ ಸಾಮರ್ಥ್ಯವನ್ನು ಸಹ ಒಳಗೊಂಡಿರುತ್ತವೆ.

ಜಾಗತೀಕರಣದ ಗುಣದೋಷ

1) ಭಾರತೀಯರಲ್ಲಿ ಸಾಮಾಜಿಕ ಭಾವನೆ ಬಗ್ಗೆಯಾಗಿ ಅನುಸರಿಸಿಕೊಳ್ಳಲಾಗುವುದು

2) ಸರಕು, ಸೇವೆಗಳು ಬಹಿರಂಗ ಮತ್ತು ಅಂತರ್ಜಾಲ ಮುಕ್ತ ಚಲನೆ

3) ಜಗತ್ತಿನ ಜನರ ಅಭಿವೃದ್ಧಿಯನ್ನು ಮೇಲಕ್ಕೆ ಏರಿಸಿಕೊಳ್ಳಲಾಗುವುದು.

4) ಜಾಗತೀಕರಣದಿಂದ ಜನರ, ಉತ್ಪಾದನಾ ಸಾಧನಗಳ ಮತ್ತು ಸಂಸ್ಕೃತಿಗಳ ಮುಕ್ತ ಚಲನೆ.

5) ಜಾಗತಿಕ ಆರ್ಥಿಕತೆಯನ್ನು ಒಂದು ಚಕ್ರದ ಪರಿಭ್ರಮಣದಿಂದಾಗಿ ಪರಿಭಾವಿಸಲಾಗುವುದು.

6) ಜಗತ್ತನ್ನು ವಿಲಯನಗಳ ಜನರಗಳ ಒಂದು ಶಕ್ತಿ ಪ್ರಾಬಲ್ಯದಿಂದಾಗಿ ಮಾಡುವುದು.

7) ಎಲ್ಲಾ ದೇಶಗಳಲ್ಲಿ ಭಿನ್ನ ಬೇಕುಬೇಡಿಕೆ ಟ್ರೆಂಡ್

ಬಿಗಿಯಾಕ್ಷರವಾದ ಪದಗಳು

ಅ) ದೀಪ ಕ್ಷಮಿಸಿ ಬಿಗಿಯಾಕ್ಷರವಲ್ಲ

ಆ) ಭಿಕ್ಷುಕ ಬಿಗಿಯಾಕ್ಷರವಲ್ಲ

ಇ) ಸಾಸ್ಥಿಕ ಬಿಗಿಯಾಕ್ಷರವಲ್ಲ

ಈ) ತಾಳಿಕೋಟೆ ಬಿಗಿಯಾಕ್ಷರವಲ್ಲ

ಉ) ಕ್ಷಾಂತಿಕ ಬಿಗಿಯಾಕ್ಷರವಲ್ಲ

ಊ) ಭಿಗಿಮಾಲಿಕ ಬಿಗಿಯಾಕ್ಷರವಲ್ಲ

ಋ) ಹುಲಿಕ್ಷಾಳ ಶಾಸ್ತ್ರೀಯ ಬಿಗಿಯಾಕ್ಷರವಲ್ಲ

ಎ) ಎಲ್ಲಿಸಿದ ಬಿಗಿಯಾಕ್ಷರವಲ್ಲ

ಬಿಗಿಯಾಕ್ಷರವಾದ ವ್ಯಾಮೋಹ್ಯತೆ

ಅ) ಹೊಸ ನೆಲಗಳ ಸಾದೃಶಕ್ಕೆ

ಆ) ಮೈಲಿ ದ್ಯಾಮಂಪ್ಪ ಧಿಂಧ್ಯಗಳ

ಇ) ಎಡಕೋಣೆ ಎಳಿಎಮಂಪ್ಪ ಗೆಳತಿ

ಈ) ಉದ್ಯೋಗ ಸೈಕ್ಷಿ

೧) ಸಹಪಠಿಸದ ವ್ಯೋಮಾಕಾಂಕ್ಷಗಳ

೨) ಪತಂಜಲಿಯ ಸ್ಥಾನ

೩) ಸಿಕ್ಕಿದ ಪದಕಗಳ

ಭಿಗಡಿಸಿರದ ತಿದ್ದುಪಡಿಗಳು

೧) ಪತಂಜಲಿಯ ಪೆಗ್ಗಡೆಯ

೨) ಬಿಡಿಸಿದ ಸಾಲುಗಳು

೩) ಭೀಮನ ಮೊಳ್ಳ ಸುಧಾರಣೆ

೪) ಮಾಲ ತಿಕ್ಕಿಂದು ಬೀಳಿಸಿದ

೫) ಅಳಿದೂಳಿ ಬಿಂಬಮಂತು ಗಳಿಕೆ

೬) ಪತ್ತೆಯಿರುವ ಬಿಡಿಸಿದ

೭) ಭಡ್ತಿಕೆ ತ್ರಿಗಡ

೮) ಬೊರಂಕೆಟ್ಟಿಂದು ಬಿಡಿಸಿದ

ಭಿಗಡಿಸಿರದ ತಿದ್ದುಪಡಿಗಳು

೧) ತ್ರಿಸುವೆನೆಯೆಂದು ಡಬ್ಬಿಗ

೨) ಡಿಬ್ಬಿಟ್ಟಿರುವ ಸಮುದ್ರಾಗ

೩) ತ್ರಿಸುಮ ತ್ರೋಲನ ವ್ಯಾಖ್ಯಗಳು

೪) ಪೆಂಕರಕ್ಕೆ ಧಾನ

೫) ಬಡ ತ್ರಿಲೋಕ ಬೊರಂಕೆಟ್ಟಿಗಳ ಮೋಚಿಸಿ

೬) ಅಧಾನ ಗಣಂತು ಭಡ್ತಿಕೆ ಬಿಳ್ಳವಣಿಗ

೭) ಬಡೆಸ್ಥಾಲಗಳ ದ್ವೀರ ಮುಕ್ತಿಗೆ

೮) ತ್ರಿಸುವೆನ ಭಡ್ತಿಕ ತ್ರಿಗಡ

೯) ಸ್ಥಿಕ್ಷಂತು ಬ್ಯಾಂಕ್ಗಿಂಬ್ಲಾ

೧೦) ಸ್ಥಿಕ್ಷಂತು ಬ್ಯಾಂಕ್ಗಿಂಬ್ಲಾ

S.V.M ARTS, SCIENCE & COMMERCE COLLEGE
ILKAL- 587125

DEPARTMENT OF BOTANY

SEMINAR REPORT ON

BIOLOGICAL NITROGEN FIXATION IN LEGUMINOUS PLANTS

NAME : MALLIKARJUN S KOPPAD

CLASS : BSC IV SEM

Reg. No : S2042068

SUBMITTED TO : PROF, ROHINI POL

BIOLOGICAL NITROGEN FIXATION IN LEGUMINOUS PLANTS

- Biological nitrogen fixation :- The conversion of atmospheric nitrogen into the nitrogenous compound by the living organisms is called biological nitrogen fixation.

$$N_2 \longrightarrow NO_3$$

(Atmospheric nitrogen) → (Nitrogenous Compound)

- There are two types in the biological nitrogen fixation :-

1) Symbiotic Nitrogen fixation in leguminous plants.

2) Non-Symbiotic Nitrogen fixation.

1) Symbiotic Nitrogen fixation in leguminous plants.

- The nitrogen fixation occurs in the Internal region of root of leguminous plants by the rhizobium like bacteria.
  Ex:- Japanicum, Rhizobium.

- Leguminous plants are the type of plants which can be produce the nodules in the roots. Ex:- Ground nut.

Process of Symbiotic Nitrogen fixation in leguminous plants.

- The leguminous plants consist the "Root hairs"; present in the soil.

In to this Root hairs, the Rhizobium which is present in the soil, that attach to the root hairs.

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ILKAL-587 125

IQAC Initiative

Career & Counselling Cell and Placement Cell in Association with Deshapande Foundation, Hubli

Organizes

Orientation Program on

Skillplus Program

for

B.Sc./BA/B.Com Final Year Students

24th November 2022

At 12.10 PM **Venue: L.H.No: 12**

Resource Persons:

1. Mr.Santosh Biradar
2. Mr.Umesh Pujeri
3. Miss.Annapurna

Deshapande Foundation, Hubli

REPORT

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Deshapande Foundation, Hubli

All Final Year Degree Students are hereby informed to attend the program without fail.

Convener

CONVENER
Placement Cell
SVM Arts, Science & Commerce College,
ILKAL-587125

Principal

Principal
S.V.M. Arts, Science and Commerce College, ILKAL

SVMVVS'S
S.V.M ARTS, SCIENCE AND COMMERCE COLLEGE
ILKAL- 587 125

Career and Counselling Cell and Placement Cell in Association Deshapande foundation, Hubli

Students Attendance Report

Topic: Skillplus Program

Resource Persons: 1) Mr.Santosh Biradar
2) Mr.Umesh Pujeri
3) Miss.Annapurna
Deshapande Foundation, Hubli

Date : 24-11-2022

Attendence Report

Sl.No	Name of the Student	Class	Sign
1	Jyoti S. patted	B.Sc V	
2	Mallikarjun P. Biradar	B.Sc V	
3	Sunil K. pattiepatil	B.Sc V	
4	Sneha S. annagund	B.Sc V	
5	Bhagyashree M. Kuslagi	B.Sc V	
6	Triveni S. Sajjan	B.Sc V	
7	Soumya. T. Halakeralagi	B.Sc V	
8	Soumya S. Anchatagi	B.Sc V	
9	Rakshita S. Bhimasen	B.Sc V	
10	Chaitra M. Shalli	B.Sc V	
11	Soujanya G. Desai	B.Sc V	
12	Sanjeevkhi N. Mulla	B.Sc V	
13	Shashikala. Y. Walekar	B.Sc V	
14	Akram Annagad	B.Sc V	
15	Laxmi. P. Kakhandaki	B.Sc V	
16	Anusha G. Chavan	B.Sc V	
17	Vijaj T. Kalasagi	B.Sc V	
18	Tejaswini M. Angadi	B.Sc V	

Sl.No	Name of the Student	Class	Sign
19	Rachana. H Gowder	3rd year	
20	Ashwini S Kumbar		
21	Aishwarya. M. Holi		
22	Safana. P Dhoker		
23	[illegible] S Kowadal		
24	Meghana D Patil		
25	Soundarya Dhanashetty		
26	Shreedevi Padiyana		
27	Bhavana A Jigati		
28	Kavya. H.U		
29	Sudha. B. Madivalar		
30	Soumya I A		
31	Pooja. N. Kamble		
32	Vanita. H Talagar		
33	Aishwarya. R Dhaigude		
34	Shivaleela N Patil		
35	Soubhagya B Jamnapad		
36	Savita Adin		
37	Kavita Adin		
38	Kavita Nidagarshi		
39	Shreedevi A Patil		
40	Amrutha Chadchan		
41	Sunita S Lamani		
42			
43			
44			
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50			
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55			

Sl.No	Name of the Student	Class	Sign
56			
57	Shivakumara	BSc V	
58	Mohammad Mustafa Momin	BSc V	
59	prathanth Karnataro	BSc V	
60	Chinnappa Reddy	BSc V	
61	Ganesh P. Rathod	BSc V	
62	Dyamesh M. Lucktod	BA V	
63	Sangamesh S Belure	BSc V	
64	Puneet. S Goral	BSc V	
65	Gouradagouda T Hullalli	BSc V	
66	Harishkumar. M.Naik	BSc V	
67	Basanagouda Patil	BSc V	
68	Ravindra Talawar	BSc V	
69	Nagaraj V Vaddageri	BSc V	
70			
71	Satish S. Tammannavar	BSc V	
72	Shivakumara Bathagar	BSc V	
73	Hanumanthappa B. G.	BA V	
74	Manjunath B. Rathod	BA V	
75	Mallikarjun K Vaddar	BA V	
76	Mohammed Asif	BA V	
77	Manjunath H. Harijan	BA V	
78	Akash. P. Awati	BA V	
79	HANAmanta N Tumbrayaddi	BA V	
80	Vinod Kumar R Rathod	BA V	
81	Shekanabasava D. K.	BA V	
82	Shivanakoppa	BA V	
83	Sangappagouda B G	B.com V	
84	Majid Ahamd B. R	B.com V	
85	Mahammad M. M	B.com V	
86	K Dankumar G	B.com V	
87	Bhimappa H Pujari	BA V	
88	Vikas. G. H	BA V	
89	Prajwal. N K	BA	
90			
91			
92			
93			
94			

Roll No	Name	Class	Sign
96	Balamma S. Gajari	B.Sc. I	
97	Mamata K. Athanigappanavar	B.Sc II	
98	Rashmi	B.Sc V	
99	Kaveri. Ramesh. Gokar	B.Sc II	
100	Shreedevi	B.Sc VI	
101	Rekha. Patil	B.Sc I	
102	Jyoti. H. Gudadur	B.Sc IV	
103	Supriya. M. Poojar	B.Sc V	
104	Mallikarjuna. S. Gunthalamath	B.Sc V	
105	Savitabasamma. G. Sotad	B.Sc VI	
106	Meghana M. Biddi	B.Sc V	
107	Shantamma	B.Sc V	
108	Vaishnavi. Gouli	B.Sc V	
109	Usha. R. Hanabi	B.Sc V	
110	Abhinandanya Hatturmani	B.Sc V	
111	Sunil. S. Angadi	B.Sc V	
112	Shwetha R. Sunkad	B.Sc V	
113	Kusuma V. Badiger	B.Sc V	
114	Manasha. Hadagali	B.Sc V	
115	Renuka K. Kamadi	B.Sc V	
116	Nandini S. Bagalkot	B.Sc V	
117	Vidyashree. N. Kaminal	B.Sc V	
118	Chaitra. M. Mankani	B.Sc V	
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134			

SVMVVS'S
S.V.M ARTS, SCIENCE AND COMMERCE COLLEGE
ILKAL-587 125

Career and Counselling Cell and Placement Cell in Association with Deshapande Foundation, Hubli

STUDENT'S FEEDBACK

1. Name of the Resource Persons: **Mr.Santosh Biradar**
Mr.Umesh Pujeri
Mr.Annapurna
Deshapande Foundation, Hubli

2. Topic : **"Skillplus-Program**

3. Date : 24th Nov. 2022

4. Quality of Information : Average [ ] Good [✓]
Excellent [ ]

5. Overall Rating : Average [ ] Good [✓]
Excellent [ ]

6. Opinion about the program :

I think it is a useful opportunity to us. and very interesting skill program

Name, Class & Signature
Savita
Savita BA 3rd Year
Savita

SVMVVS'S
S.V.M ARTS, SCIENCE AND COMMERCE COLLEGE
ILKAL-587 125

Career and Counselling Cell and Placement Cell in Association with Deshapande Foundation, Hubli

STUDENT'S FEEDBACK

1. Name of the Resource Persons: **Mr.Santosh Biradar**
Mr.Umesh Pujeri
Miss.Annapurna
Deshapande Foundation, Hubli

2. Topic : **"Skillplus-Program**

3. Date : 24th Nov. 2022

4. Quality of Information : Average ☐ Good ☑
Excellent ☐

5. Overall Rating : Average ☐ Good ☑
Excellent ☐

6. Opinion about the program : "Skillplus-program was very good and it's really useful to us. So I am very thankful to you sir for arranging this program in our college.

Name, Class & Signature
Bhagyashree Waddar
BSc IInd Semester


GPS Map Camera
Ilkal, Karnataka, India
Bagalkot, NH-13, Solapur Mangalore Highway,
Ilkal, Ilkal, Karnataka 587125, India
Lat 15.967273°
Long 76.110651°
24/11/22 11:36 AM GMT +05:30
Google


GPS Map Camera
Ilkal, Karnataka, India
Bagalkot, NH-13, Solapur Mangalore Highway,
Ilkal, Ilkal, Karnataka 587125, India
Lat 15.967187°
Long 76.110678°
24/11/22 11:29 AM GMT +05:30
Google


GPS Map Camera
Ilkal, Karnataka, India
Bagalkot, NH-13, Solapur Mangalore Highway,
Ilkal, Ilkal, Karnataka 587125, India
Lat 15.967201°
Long 76.110768°
24/11/22 11:33 AM GMT +05:30
Google


GPS Map Camera
Ilkal, Karnataka, India
Bagalkot, NH-13, Solapur Mangalore
Highway, Ilkal, Ilkal, Karnataka 587125, India
Lat 15.967169°
Long 76.111075°
24/11/22 11:33 AM GMT +05:30
Google

SVMVV Society's

S.V.M.Arts, Science and Commerce College,

Ilkal-587125

Placement List 2022-23

S.No.	Name of the student	Stream	Company
01	Sunil kumar Gangur	B.Sc.	Fireman
02	Doddesh Kundagol	B.Sc.	Fireman
03	Praveen.M.Gali	B.Sc.	Fireman
04	Sangamesh Mirakoor	B.Sc.	Fireman
05	Ravi Madar	B.Sc.	Fireman
06	Siraj Hungund	B.Sc.	Fireman
07	Anusha Jigajinni	B.Com	Cogent
08	Manjunath I Jevaragi	B.Com	Cogent
09	Ishaq. R.Reshmi	B.Com	Cogent
10	Akash S .Angadi	B.Com	Cogent
11	Manjunath Saka	B.Com	Cogent
12	Karthik Kulkarni	B.Sc.	ICICI
13	Ashabegum Kustagi	B.Com.	ICICI
14	Neelappa Kuri	B.Sc.	ICICI
15	Manjunath Saka	B.Com.	ICICI
16	Sahana Jevaragi	B.Sc.	Wipro
17	Srusti Gotur	B.Sc.	MPHASIS
18	Prashant Mylakal	B.Sc.	Sagility
19	Naveenkumar Kulkarni	B.Sc.	Sagility

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ILKAL-587125

PRINCIPAL
S.V.M. Arts, Science and
Commerce College, ILKAL

SVM VV Sangha's

S.V.M.Arts, Science and Commerce College

Ilkal-587 125

Placement Cell

Program Conducted during 2022-23

Sl.No	Date	Program	Resource Person	No. of Students Benefited
01	24-11-2022	Skill Plus Program	Mr. Santosh Biradar Mr. Umesh Pujeri Deshapande Foundation , Hubli	96
02	09-06-2023	Career Guidance & Opprtunities in Various Govt Sectors	Shri.Akhilkumar R. Halagatti Director,Gurudev Institute , Hubli	84
03	15-06-2023	Career Guidance	V.C.Hallur HOD Dept. of MCA Angadi Institute of Technology & Management Belagavi	61
				241

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SVM Arts, Science & Commerce College
ILKAL-587125

PRINCIPAL
S.V.M. Arts, Science and
Commerce College, ILKAL

ಶ್ರೀ ವಿಜಯಮಹಾಂತೇಶ ಈವಿ, ವಿಜ್ಞಾನ ಹಾಗೂ ವಾಣಿಜ್ಯ ಪದವಿಪೂರ್ವ ಮಹಾವಿದ್ಯಾಲಯ, ಇಲಕಲ್ಲ

ಒಕ್ಕೂಟ ಪದಾಧಿಕಾರಿಗಳ ಆಯ್ಕೆ ಪಟ್ಟಿ : 2022-23

2022-23 ರ ವಾರ್ಷಿಕ ಪರೀಕ್ಷೆ

ಶರಣು ಶರಣಾರ್ಥಿ ಲಿಂಗೈಕ್ಯ ಶ್ರೀ ವಿಜಯ ಮಹಾಂತೇಶ ಸ್ವಾಮಿಗಳನ್ನು ಮನದಲ್ಲಿ ನೆನೆದು, ಈ ಸುಂದರ ಸಮಾರಂಭದ ಸಾನಿಧ್ಯ ವಹಿಸಿರುವ ಪರಮಪೂಜ್ಯ ಶ್ರೀ ಮ.ನಿ.ಪ್ರ.ಡಾ.ಮಹಾಂತ ಸ್ವಾಮಿಗಳವರ ಪಾದಗಳಲ್ಲಿ ಶರಣಾರ್ಥಿಯನ್ನು, ಪರಮಪೂಜ್ಯ ಶ್ರೀ ಮ.ನಿ.ಪ್ರ ಗುರುಮಹಾಂತ ಸ್ವಾಮಿಗಳವರ ಆಶೀರ್ವಾದಗಳನ್ನು ಬಯಸಿ: ಈ ಸಮಾರಂಭದ ವೇದಿಕೆಯಲ್ಲಿ ಆಸೀನರಾದ ಗಣ್ಯಮಾನ್ಯರೆ, ಆಮಂತ್ರಿತರೆ, ನಗರದ ಗೌರವಾನ್ವಿತ ಸದಸ್ಯರೆ, ಪತ್ರಕರ್ತರೆ, ಪ್ರಾಧ್ಯಾಪಕ ವೃಂದವೇ, ಕಾರ್ಯಾಲಯದ ಸಿಬ್ಬಂದಿ ವರ್ಗವೇ ವಿದ್ಯಾರ್ಥಿ ವಿದ್ಯಾರ್ಥಿನಿಯರೆ ಹಾಗೂ ಸರ್ವರಿಗೂ ಶರಣು ಶರಣಾರ್ಥಿಗಳು.

2022-23 ರ ಸಾಲು ಮಹಾವಿದ್ಯಾಲಯದ ಶೈಕ್ಷಣಿಕ, ಸಾಂಸ್ಕೃತಿಕ ಹಾಗೂ ಕ್ರೀಡಾ ಚಟುವಟಿಕೆಗಳಲ್ಲಿ ತಿರುವು ಕಕ್ಕಿರುವಂತ ವಿದ್ಯಾರ್ಥಿ ಒಕ್ಕೂಟವು ಈ ಕೆಳಗಿನಂತಿದೆ.

ಕ್ರ. ಸಂ.	ಪದವಿಯ ಹೆಸರು	ಗಣ್ಯರ ಹೆಸರು	ವಿದ್ಯಾರ್ಥಿ ಕಾರ್ಯದರ್ಶಿಗಳ ಹೆಸರು
01	ಸಾಂಸ್ಕೃತಿಕ ಪದವಿ ಹಾಗೂ ಒಕ್ಕೂಟದ ಕಾರ್ಯಾಧ್ಯಕ್ಷರು	ಡಾ. ಎಂ.ಎಸ್. ಮಿಣಜಿಗಿ	ಕು.ಆರುಣಕುಮಾರ ಭಜಂತ್ರಿ ಬಿ.ಎ.6ನೇ ಸೆಮ್
02	ಕ್ರೀಡಾ ಪದವಿ	ಪ್ರೊ. ಸುಭಾಸ ಹುಗ್ಗಿ	ಕುಮಾರಿ ಪೂಜಾ.ಕರಡಿ ಬಿ.ಕಾಂ 5ನೇ ಸೆಮ್
03	ವಾಣಿಜ್ಯ ಸಂಚಿಕೆ ವಿಭಾಗ	ಡಾ ಪ್ರಿ.ಎಸ್.ಕಡ್ಡಿಮಠ್ಠಿ	ಕುಮಾರಿ.ಆಫೀಲಾ ಆಮಿನಗಡ ಬಿ.ಎಸ್ಸಿ 5ನೇ ಸೆಮ್
04	ಮಹಿಳಾ ಪದವಿ	ಕು.ಶಕ್ತಿಮ್ಮ ಗುಮ್ಮಾ	ಕು.——— ಬಿ.ಎಸ್ಸಿ3ನೇ ಸೆಮ್
05	ವಿಜ್ಞಾನ ಪದವಿ	ಶ್ರೀ.ಗುಡಾದ್ ಚೆಲ್ಲೆ	ಕು.——— ಬಿ.ಎಸ್ಸಿ3ನೇ ಸೆಮ್
06	ಸಮಾಜ ವಿಜ್ಞಾನ ಪದವಿ	ಡಾ. ಶಿವಾನಂದ ಕಿರಸೂರಿಗೌಡರ	ಕು.ಆರುಣಕುಮಾರ ಭಜಂತ್ರಿ ಬಿ.ಎ.6ನೇ ಸೆಮ್
07	ವಾಣಿಜ್ಯ ಹಾಗೂ ಯೋಜನಾ ಪದವಿ	ಶ್ರೀ ದೇವಿಂದ್ರಪ್ಪ ಚ ದೊಡ್ಡಮನಿ	ಕು.ಚೆನ್ನಯ್ಯ ಗುರಾಳಕರ್ ಬಿ.ಕಾಂ 4ನೇ ಸೆಮ್

ಮಾನ್ಯರೆ,

ವಿದ್ಯಾರ್ಥಿ ಒಕ್ಕೂಟವು ಕೈಗೊಂಡ ವಿವಿಧ ಚಟುವಟಿಕೆಗಳ ಸಂಕ್ಷಿಪ್ತ ವರದಿಯನ್ನು ತಮ್ಮ ಮುಂದೆ ಸಾದರ ಪಡಿಸಲು ಸಂತೋಷವೆನಿಸುತ್ತಿದೆ. ಪ್ರಸ್ತುತ ಶೈಕ್ಷಣಿಕ ವರ್ಷದ ವಿದ್ಯಾರ್ಥಿ ಒಕ್ಕೂಟ ಉದ್ಘಾಟನಾ ಸಮಾರಂಭವು ದಿನಾಂಕ 03-01-2023 ರಂದು ಬೆಳಿಗ್ಗೆ 10.30.00 ಗಂಟೆಗೆ ನೆರವೇರಿತು. ಡಾ. ಕಂಪು ಬ್ಲಿ ಬಳಿಗಾರ ವಿಶ್ರಾಂತ ಪ್ರಾಚಾರ್ಯರು ಹಾಗೂ ಹಾನಗಲ ವಿದ್ಯಾರ್ಥಿಗಳು ಇವರು ವಿದ್ಯಾರ್ಥಿ ಒಕ್ಕೂಟದ ಉದ್ಘಾಟನೆ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಮುಖ್ಯ ಅತಿಥಿಗಳಾಗಿ ಭಾಗವಹಿಸಿ ಸಮಾರಂಭದ ಪರ್ವದುದ್ದಕ್ಕೂ ನಡೆಯುವ ಸಾಂಸ್ಕೃತಿಕ ಚಟುವಟಿಕೆಗಳು ಯಶಸ್ವಿಯಾಗಿ ಜರುಗಲೆಂದು ಹಾರೈಸಿದರು. ತಮ್ಮ ವೃತ್ತಿಯ ಪಕ್ಷಿನೋಟ, ಪಕ್ಷೇತರ ಚಟುವಟಿಕೆಗಳಲ್ಲಿ ಕ್ರಿಯಾಶೀಲರಾಗಿ ಪಾಲ್ಗೊಂಡು ತಮ್ಮ ವ್ಯಕ್ತಿತ್ವವನ್ನು ರೂಪಿಸಿಕೊಳ್ಳಬೇಕು. ಜೊತೆಗೆ ಪಠ್ಯ/ವಿಷಯ ಮೇತರವಾದ ಸ್ಪರ್ಧಾತ್ಮಕ ಪರೀಕ್ಷೆಗಳಿಗೆ ಹಾಜರಾಗಿ ಈ ನಾಡನ್ನು ಮುನ್ನಡೆಸಬೇಕೆಂದು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಕರೆ ನೀಡಿದರು.

ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯದ ನ್ಯಾಕ್ ಪುನರ್ಮೌಲ್ಯಮಾಪನ ಪ್ರಕ್ರಿಯೆಯನ್ನು ಗಮನದಲ್ಲಿರಿಸಿಕೊಂಡು ಆಂತರಿಕ ಗುಣಮಟ್ಟ ಸುಧಾರಣಾ ಪಡಿಹಳಿಯನ್ನು ಡಾ ಎಸ್.ಬಿ.ಬಿರಾದಾರ ಸಂಯೋಜಕರು (ಐ.ಕ್ಯೂ.ಎಸಿ) ರವರ ನೇತೃತ್ವದಲ್ಲಿ ಪುನರ್ ರಚಿಸಲಾಗಿದ್ದು, ರಚನಾತ್ಮಕ ಹಾಗೂ ಗುಣಮಟ್ಟವನ್ನು ಕಾಯ್ದಿಕೊಳ್ಳುವ ಸಲುವಾಗಿ ಏಳು ಕ್ಷೇತ್ರಿಯಮಾಗಳಿಗೆ ಸಂಚಾಲಕರನ್ನಾಗಿ ನೇಮಿಸಲಾಯಿತು. ಈ ಸಮಿತಿಯು ಕ್ರಿಯಾತ್ಮಕವಾಗಿ ಕಾರ್ಯನಿರ್ವಹಿಸಿತು. ನಂತರ ನ್ಯಾಕ್ ತಂಡವು ಮಹಾವಿದ್ಯಾಲಯಕ್ಕೆ ಭೇಟಿ ನೀಡಿ ಭೌತಿಕ ಮೂಲ ಸೌಲಭ್ಯ ಹಾಗೂ ಶೈಕ್ಷಣಿಕ ಸಾಧನೆಯನ್ನು ವಿವರವಾಗಿ ಪರಿಶೀಲಿಸಿ, ಕಾಲೇಜಿಗೆ 3.04 ಸಿ.ಜಿ.ಪಿ.ಎ ಅಂಕಗಳನ್ನು ನೀಡುವ ಮೂಲಕ ದಿನಾಂಕ 10-03-2023 ರಂದು ತಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯಕ್ಕೆ ಎ ಗ್ರೇಡ್ ಮಾನ್ಯತೆಯನ್ನು ನೀಡಲಾಯಿತು. ಇದು ಈ ವರ್ಷದ ಒಂದು ಹೆಮ್ಮೆಯ ಸಾಧನೆಯೆಂದು ಹೇಳಬಹುದು.

ಪ್ರಸ್ತುತ ವರ್ಷದಲ್ಲಿ ಮಹಾವಿದ್ಯಾಲಯದ ವಿದ್ಯಾರ್ಥಿಒಕ್ಕೂಟದಿಂದಲ್ಲಿ ಜರುಗಿದ ಪಠ್ಯ ಹಾಗೂ ಪಠ್ಯೇತರ ಚಟುವಟಿಕೆಗಳ ಸಂಕ್ಷಿಪ್ತ ವಿವರ ಈ ಕೆಳಗಿನಂತಿದೆ.

01. ವಿದ್ಯಾರ್ಥಿ ಒಕ್ಕೂಟದ ಆಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರಕಾರದ ಆದೇಶದಂತೆ ದಿನಾಂಕ 17-07-2023ರಂದು ಪ್ರಸಮಾಮುಕ್ತ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು. ಮುಖ್ಯ ಅತಿಥಿಗಳಾಗಿ ಸಾಗರದ ಖ್ಯಾತ ವೈದ್ಯರಾದ ಡಾ ವೆಂಕಟ ಶಾಸ್ತ್ರಿ ಇವರು ಪ್ರಸಸದ ಪರಿಣಾಮವನ್ನು ಕುರಿತು ಮಾತನಾಡಿದರು.ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಅಧ್ಯಾಪಕರು ಸೇರಿದಂತೆ 150 ವಿದ್ಯಾರ್ಥಿಗಳು ಪಾಲ್ಗೊಂಡಿದ್ದರು.

02. ಮಹಿಳಾ ಮೇನಿಕೆಯಡಿಯಲ್ಲಿ ದಿನಾಂಕ27-07-2023 ಮತ್ತು ದಿನಾಂಕ 28-07-2023ರಂದು ವಿದ್ಯಾರ್ಥಿನಿಯರಿಗಾಗಿ ವಿವಿಧ ಸ್ಪರ್ಧೆಗಳನ್ನು ಆಂದರೆ

01.ರ್ಯಾಂಪ್ ವಾಕ್ 02.ಮೇಕಪ್ 03.ಮೆಹಂದಿ ಮೇಕಿಂಗ್ 04.ಕುಕ್ಕಿಂಗ್ ವಿದೌಟ್ ಫಾಯರ್ ಇತ್ಯಾದಿ ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ಹಮ್ಮಿಕೊಳ್ಳಲಾಗಿತ್ತು.

ದಿನಾಂಕ28-07-2023 ರಂದು ಮಹಿಳಾ ಆರೋಗ್ಯದ ಕುರಿತು ವಿಶೇಷ ಉಪನ್ಯಾಸವನ್ನು ಏರ್ಪಡಿಸಲಾಗಿತ್ತು ಮುಖ್ಯ ಅತಿಥಿಗಳಾಗಿ ಸಾಗರದ ಖ್ಯಾತ ವೈದ್ಯರಾದ ಡಾ ಶೋಭಾರಾಣಿ ಎಮ್ಸ್ ಕಾಮಸ್ಟ್ರಿ ಇವರು ಆರೋಗ್ಯದ ಕುರಿತು ಮಾತನಾಡಿದರು. ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಅಧ್ಯಾಪಕರು ಸೇರಿದಂತೆ 109 ವಿದ್ಯಾರ್ಥಿಗಳು ಭಾಗವಹಿಸಿದ್ದರು.

ಸಮಾಜ ವಿಜ್ಞಾನ ಮಹಿಳೆಯಡಿಯಲ್ಲಿ ದಿನಾಂಕ 05-08-2023 ರಂದು ಮಹಿಳಾ ಚಳುವಳಿಯಲ್ಲಿ ಸಾಮಾಜಿಕ ಮಾಧ್ಯಮಗಳ ಪಾತ್ರ ಎಂಬ ವಿಷಯದ ಮೇಲೆ ವಿಶೇಷ ಉಪನ್ಯಾಸ ಕಾರ್ಯಕ್ರಮವನ್ನು

ಆಯೋಜಿಸಲಾಗಿತ್ತು. ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಮುಖ್ಯ ಅತಿಥಿಗಳಾಗಿ ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗದ ಕನ್ನಡ ಸಹಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರಾದ ಶ್ರೀ ಮಹಾಂತೇಶ ಹೊಸ್ಮನಿ ಅವರು ಮೌಖಿಕ ನಿರೂಪಣೆಯಲ್ಲಿ ಪತ್ರಗಳ ಮಹತ್ವದ ಕುರಿತು ಅತ್ಯಂತ ಮಾಹಿತಿಪೂರ್ಣವಾಗಿ ಮಾತನಾಡಿದರು. ಈ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಅಧ್ಯಾಪಕರೊಂದಿಗೆ 120 ವಿದ್ಯಾರ್ಥಿಗಳು ಪಾಲ್ಗೊಂಡಿದ್ದರು.

ವಾರ್ಷಿಕ ಹಾಗೂ ಯೋಜನಾ ಪೂರ್ವಭಾವಿ ಸಭೆಯನ್ನು ದಿನಾಂಕ 17-08-2023 ರಂದು ಉದ್ಘಾಟನೆಗಾಗಿ ಕೈಬ್ಬಟ್ಟಿ ಎಂಬ ವಿಷಯದ ಮೇಲೆ ವಿಶೇಷ ಉಪನ್ಯಾಸವನ್ನು ಹಮ್ಮಿಕೊಳ್ಳಲಾಯಿತು.ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಮುಖ್ಯ ಅತಿಥಿಗಳಾಗಿ ಶ್ರೀ ಸಾಗರಾಜ ಮುದಗಲ್ಲ ಪ್ರಾಂಶುಪಾಲರು ಸರಕಾರಿ ಪ್ರಥಮ ದರ್ಜೆ ಕಾಲೇಜು ಹುನಗುಂದ ಇವರು ಕಾರ್ಯಕ್ರಮವನ್ನು ಉದ್ಘಾಟಿಸಿದರು. ವಿಶೇಷ ಉಪನ್ಯಾಸ ನೀಡಿದರು. ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಅಧ್ಯಾಪಕರೊಂದಿಗೆ 150 ವಿದ್ಯಾರ್ಥಿಗಳು ಭಾಗವಹಿಸಿದ್ದರು.

ಸಾಹಿತ್ಯ ಪರಿಷತ್ತಿನಲ್ಲಿ ದಿನಾಂಕ15-03-2023 ರಂದು ಕ್ಷಯಗ್ರಸ್ತ ಸಂದರ್ಭದಲ್ಲಿ ಸುವರ್ಣ ಕೌಶಲಗಳ ಮಹತ್ವ ಕುರಿತು ಮುಖ್ಯ ಅತಿಥಿಗಳಾದ ಡಾ.ಆರ್.ಎಂ.ಪಿರಪ್ಪ ಪ್ರಾಂಶುಪಾಲರು ಎಸ್ ಬಿ ಆರ್ಟ್ಸ್ ಮತ್ತು ಕೆಸಿ ಸಾಯೆನ್ಸ ಕಾಲೇಜು,ಇಳಕಲ ವಿಶೇಷ ಉಪನ್ಯಾಸ ನೀಡಿದರು. ಇದೇ ಸಂದರ್ಭದಲ್ಲಿ ಕವನ ಬರೆಯುವ ಕಲೆ ಕುರಿತು,ಮತ್ತು ವಿದ್ಯಾರ್ಥಿಗಳ ಕವನ ವಾಚನ ಕಾರ್ಯಕ್ರಮವನ್ನು ಸಂಯೋಜಿಸಲಾಯಿತು. ಕಾರ್ಯಕ್ರಮದ ಮುಖ್ಯ ಅತಿಥಿಗಳಾಗಿ ಡಾ ಅರವಿಂದ ರಾಜಾ ಖ್ಯಾತ ಕವಿಗಳು ಹಾಗೂ ಸಹಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರು ಸರಕಾರಿ ಪ್ರಥಮ ದರ್ಜೆ ಕಾಲೇಜು ಇಳಕಲ್ಲ ಇವರು ಕಾವ್ಯದಲ್ಲಿ ಈಚಿನ ಬೆಳವಣಿಗೆಗಳ ಕುರಿತು ವಿಶೇಷ ಉಪನ್ಯಾಸ ನೀಡಿದರು.

ಶೈಕ್ಷಣಿಕ ಭೇಟಿ:

01.) 21-02-2022

ಕುಮಾರಿ ಸೀತವ್ವ ರೆಪ್ಪಿ '' ಆಂಥರೋಪಾಲಜಿ ಸ್ಟಡೀಯಲ್ಲಿ '' ಗೋಲ್ಡನ್ ಬುಕ್ ಆಫ್ ರೆಕಾರ್ಡ'' ವೈಯಕ್ತಿಕ ಡಾಟಲ್ ಪಡೆದ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಥಮ ವಿದ್ಯಾರ್ಥಿನಿ

02.) 15-05-2022 ರಿಂದ 16-06-2022

ಕರ್ನಾಟಕ ಜಾನಪದ ಲೋಕ ಸಂಸ್ಥೆ ಹಮ್ಮಿಕೊಂಡ ''ರಾಷ್ಟ್ರಮಟ್ಟದ ಜಾನಪದ ಲೋಕ ಸ್ಪರ್ಧೆಯಲ್ಲಿ 01) ಕುಮಾರಿ.ಸುಮಿತ್ರಾ ಬಾಲೇಕರ 02) ಕುಮಾರಿ ರಾಕೇಶ ಹರಿಜನ ವಿದ್ಯಾರ್ಥಿನಿಯರು ಭಾಗವಹಿಸಿ ಇಬ್ಬರೂ ಪ್ರಥಮಸ್ಥಾನದೊಂದಿಗೆ ರಾಷ್ಟ್ರಮಟ್ಟಕ್ಕೆ ಆಯ್ಕೆಯಾದರು.

03.) 06-08-2022

ರಾಣಿ ಚೆನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವಲಯದ ಪುರುಷರ ಖೋಖೋ ಪಂದ್ಯಾವಳಿಯಲ್ಲಿ ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯವು ಅತ್ಯುತ್ತಮವಾಗಿ ಸಂಘಟಿಸಿ, ಸದರಿ ಕ್ರೀಡಾಕೂಟದಲ್ಲಿ ಒಟ್ಟು 16 ತಂಡ ಭಾಗವಹಿಸಿದ್ದು ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯದ ಖೋಖೋ ತಂಡ ರನ್ನರ್ ಆಫ್ ಸ್ಥಾನ ಪಡೆದುಕೊಂಡು ಅಂತರಾಷ್ಟ್ರೀಯ ಮಟ್ಟಕ್ಕೆ ಆಯ್ಕೆಯಾಯಿತು.

04.) 29-07-2022 ಹಾಗೂ 30-07-2022

ಜೋಗಪೇಟೆಯಲ್ಲಿ ನಡೆದ "36 ಗಂಟೆ ನಿರಂತರ ಡುಲ್ ರನ್ಸ್" ಇಂಟರ್‌ನೆಟ್ ಮಿಷ್ ರೆಕಾರ್ಡ್‌ನಲ್ಲಿ ಕುಮಾರಿ ಸುಮಿತ್ ಪಾಲಿಕಾರ ಹಾಗೂ ರಾಜೇಶ ಹಡಿಕ ಭಾಗವಹಿಸಿ ಮಿಷ್ ರೆಕಾರ್ಡ್‌ನ ಮಾಲಿಕೆಯೊಂದಿಗೆ ಮಹಾವಿದ್ಯಾಲಯಕ್ಕೆ ಹೆಸರು ತಂದಿದ್ದಾರೆ.

05.) 17-01-2023 ರಿಂದ 19-01-2023

ಪ್ರಥಮ ಜೂನಿಯರ್ ಮತ್ತು ಸೀನಿಯರ್ ರೂಲರ್‌ನ್ನು ಚಾಂಪಿಯನ್‌ಶಿಪ್ 2023 ರಾಷ್ಟ್ರಮಟ್ಟದ ಕ್ರೀಡಾಕೂಟವನ್ನು ಯಶಸ್ವಿಯಾಗಿ ಸಂಘಟಿಸಿ, ನಡೆಸಿಕೊಟ್ಟದ್ದಕ್ಕೆ 25 ಜನ ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯ ವಿದ್ಯಾರ್ಥಿಗಳು ಭಾಗವಹಿಸಿ ಚಾಂಪಿಯನ್ ಕಂಪಡಾಗಿ ಉತ್ತಮ ಸಾಧನೆ ಮಾಡಿತು.

06.) 09-02-2023 ರಿಂದ 15-02-2023

ಆಯ್ಕೆಯಾಕ್ಕಿರುವ ಗುಲಬರ್ಗಾದಲ್ಲಿ ನಡೆದ 3ನೇ ಖೇಲೋ ಇಂಡಿಯಾ ಕ್ರೀಡಾಕೂಟದಲ್ಲಿ ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯದ 1.) ಆಕಾಶ ಆಂಗಡಿ 02) ಸಂತೋಷ ಕುರಿ ಭಾಗವಹಿಸಿದ್ದರು.

ಕ್ರೀಡಾ ಪೆವಿಲಿಯನ್‌ನಲ್ಲಿ ದಿನಾಂಕ 22-08-2023 ರಿಂದ 25-08-2023 "ಕ್ರೀಡಾ ಸಂಭ್ರಮ-2023" ಒಂದು ತಿಷೇಕಯುತಿಯಲ್ಲಿ 4 ದಿನಗಳವರಗೆ ವಾರ್ಷಿಕ ಕ್ರೀಡಾಕೂಟವನ್ನು ಸಂಘಟಿಸಲಾಯಿತು. ಸದರಿ ಕ್ರೀಡಾಕೂಟದ ಉದ್ಘಾಟನಾ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ದಿವ್ಯಸಾನಿಧ್ಯ ಪೂಜ್ಯಶ್ರೀ ಗುರುಮಹಾಂತ ಸ್ವಾಮೀಜಿಯವರು ಅಧ್ಯಕ್ಷತೆ ವಹಿಸಿ ಪೂಜ್ಯ ಶ್ರೀ ಉದ್ಘಾಟನೆ- ಶ್ರೀ.ಎಮ್.ಬಿ.ಪಾಟೀಲರು ಮುಖ್ಯ ಅತಿಥಿಗಳಾಗಿ ಶ್ರೀ ಪ್ರಭಾಂಕ ಬಟ್ಟೂರವರೆ ಪಾಲ್ಗೊಂಡಿದ್ದರು. ಈ ಕ್ರೀಡಾಕೂಟದಲ್ಲಿ ಕೆಳಗಿನ ಕ್ರೀಡೆಗಳನ್ನು ಯಶಸ್ವಿಯಾಗಿ ಸಂಘಟಿಸಲಾಯಿತು. ಅವುಗಳೆಂದರೆ

ರಾಷ್ಟ್ರೀಯ ಸೇವಾ ಯೋಜನೆಯ ಚಟುವಟಿಕೆಗಳು

"2022-23 ನೇ ಶೈಕ್ಷಣಿಕ ವರ್ಷದಲ್ಲಿ, ಈ ಕೆಳಗಿನ ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ಆಯೋಜಿಸಲಾಗಿತ್ತು.

01. ದಿನಾಂಕ:01-08-2022 ರಂದು ವ್ಯಸನಮುಕ್ತ ಜಾಗೃತಿಅಭಿಯಾನವನ್ನು ಆಯೋಜಿಸಲಾಗಿತ್ತು ಈ ಅಭಿಯಾನದಲ್ಲಿ 60 ಸ್ವಯಂಸೇವಕರು ಭಾಗವಹಿಸಿದ್ದರು.
02. ದಿನಾಂಕ:21-06-2022 ರಂದು ಅಂತರರಾಷ್ಟ್ರೀಯ ಯೋಗ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.
03. ದಿನಾಂಕ:15-08-2022 ರಂದು ಸ್ವಾತಂತ್ರ್ಯ ದಿನಾಚರಣೆ ಅಂಗವಾಗಿ ಅಜಾದಿ ಕಾ ಅಮೃತಮಹೋತ್ಸವ ಕಾರ್ಯಕ್ರಮವನ್ನು ಹಮ್ಮಿಕೊಳ್ಳಲಾಗಿತ್ತು. ಇದರಲ್ಲಿ 100 ಕಾರ್ಯಕರ್ತರು ಭಾಗವಹಿಸಿದ್ದರು.
04. ದಿನಾಂಕ:24-09-2022 ರಂದು ರಾಷ್ಟ್ರೀಯ ಸೇವಾ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.
05. ದಿನಾಂಕ: 01-12-2022 ರಂದು ಏಸ್.ಏಸ್.ಐ ಮತ್ತು ವೈ ಆರ್ ಸಿ ಸಂಯೋಗದಲ್ಲಿ ವಿಶ್ವ ಏಡ್ಸ್‌ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.
06. ದಿನಾಂಕ: 12-01-2023 ರಂದು ಸ್ವಾಮಿವಿವೇಕಾನಂದ ಜಯಂತಿ ಪ್ರಯುಕ್ತ ರಾಷ್ಟ್ರೀಯ ಯುವ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.
07. ದಿನಾಂಕ: 25-01-2022 ರಂದು ರಾಷ್ಟ್ರೀಯ ಮತದಾರರ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.

ಏನ್.ಏಸ್.ಏ ಚಟುವಟಿಕೆಗಳು

ದಿನಾಂಕ: 01-09-2022 ರಂದು 36 ವಿದ್ಯಾರ್ಥಿಗಳು 14 ವಿದ್ಯಾರ್ಥಿಗಳು ಎಂಗೇಜ್ ಕಾರ್ಯಕ್ರಮಕ್ಕಾಗಿ ನೋಂದಾಯಿಸಿಕೊಂಡಿದ್ದಾರೆ.

ಭಾಗವಹಿಸಿದ ಕ್ಯಾಡೆಟ್‌ಗಳು

01.AITSC New Delhi- 01 Cadet
02.TSC IGC held at Vijapura-10Cadets
03.IMA Dehrdun- 03 Cadets
04.RDC IGC held at Toranagallu- 05 Cadet
05.CATC Held at Bagalkot- 52 Cadet
06.CATC Held at Vijayapur- 22 Cadet

Awards And Achievements

01.1st Best NCC Unit of Karnataka & Goa Directorate.
02.Silver Medal in AITSC New-Delhi: CSUO Aakash Melli
03.IMA Dehradun -03 Cadets

Activites Conducted

01.Freedom run Rally

02. Drug Abuse and Illieit Trafficking Rally

03.Tree Plantation on occasion of World Environmental day Celebration

04.Blood Donation

05. Seed ball Prepartion and plantation

06.Deduction day Celebration

ಭಾರತ ಸ್ಕೌಟ್ಸ್ & ಗೈಡ್ಸ್ ಚಟುವಟಿಕೆಗಳು

01. ದಿನಾಂಕ: 07-06-2022 ರಂದು ವಿಶ್ವ ಪರಿಸರ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.
02. ದಿನಾಂಕ: 08-06-2022 ರಂದು ಸಾರ್ವಜನಿಕ ಆರೋಗ್ಯ ಮತ್ತು ಸುರಕ್ಷತೆ ಕುರಿತು ಜಾಗೃತಿ ಕಾರ್ಯಕ್ರಮ
03. ದಿನಾಂಕ: 20-06-2022 ರಂದು ಆಯುರ್ವೇದ ದಿನಾಚರಣೆ ಕಾರ್ಯಕ್ರಮ
04. ದಿನಾಂಕ: 11-07-2022 ರಂದು ವಿಶ್ವ ಜನಸಂಖ್ಯಾ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.
05. ದಿನಾಂಕ: 01-08-2022 ರಂದು ಪ್ಲಾಸ್ಟಿಕ್ ಮುಕ್ತ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.
06. ದಿನಾಂಕ: 15-08-2022 ರಂದು ರಾಷ್ಟ್ರೀಯ ಸಪ್ತಾಹದ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.

07. ದಿನಾಂಕ:01-12-2022 ರಂದು ಏಡ್ಸ ಜಾಗೃತಿ ಕಾರ್ಯಕ್ರಮವನ್ನು ಆಚರಿಸಲಾಯಿತು.

08. ದಿನಾಂಕ: 22-12-2022 ರಂದು ಭಾರತ ಶ್ರೇಷ್ಠಚಾರಣ ಕಾರ್ಯಕ್ರಮವನ್ನು ಆಯೋಜಿಸಲಾಯಿತು.

09. ದಿನಾಂಕ: 12-01-2023 ರಂದು ರಾಷ್ಟ್ರೀಯ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.

10. ದಿನಾಂಕ: 25-01-2023 ರಂದು ರಾಷ್ಟ್ರೀಯ ಮತದಾರರ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು.

11. ದಿನಾಂಕ: 13-06-2023 ರಿಂದ 15-06-2023 ರವರಗೆ ಬೇಸಿಗೆ ಶಿಬಿರವನ್ನು ಆಯೋಜಿಸಲಾಯಿತು.

ಶ್ರೀ ವಿಜಯ ಮಹಾಂತೇಶ ಕಲೆ, ವಿಜ್ಞಾನ ಹಾಗೂ ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ, ಇಲಕಲ್ಲ.587125

2022-23 ನೇ ಸಾಲಿನ ಕ್ರೀಡಾ ವರದಿ

ದೈಹಿಕ ಶಿಕ್ಷಣ ವಿಭಾಗ

29-01-2022

ವಿ.ಎಮ್.ಎಸ್.ಆರ್.ವಿ ಕಲೆ ವಿಜ್ಞಾನ ಹಾಗೂ ಶಂಕರಪ್ಪ ನಾಗರಾಳ ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ ಹುಸಗುಂದದಲ್ಲಿ ನಡೆದ ಆಕ್ಸ್‌ಫರ್ಡ ವಾಗ್ಮಲಕೊಟ್ಟು ಜಿಲ್ಲಾ ಕಬಡ್ಡಿ ಮಹಾವಿದ್ಯಾಲಯಗಳ

'' ಬಾಲ್ ಬ್ಯಾಡ್ಮಿಂಟನ್'' ಕ್ರೀಡೆಯಲ್ಲಿ ಮಹಾವಿದ್ಯಾಲಯದ ಕುಮಾರಿ ಚೆನ್ನಪ್ಪ ಬೇವೂರ ಹಾಗೂ ಕುಮಾರಿ ಸೌಮ್ಯ ಆರೆಪೊಗುರ ಕ್ರೀಡಾಕೂಟದ ಉತ್ತಮ ಆಟಗಾರರು ಪ್ರಶಸ್ತಿ ಪಡೆದುಕೊಂಡರು.

21-02-2022

ಕುಮಾರ ಸಿಂಚನ ರೆಷ್ಮಿ '' ಆಲಿರೋಜಾ ಸ್ಪರ್ಧೆಯಲ್ಲಿ '' ಗೋಲ್ಡನ್ ಬುಕ್ ಆಫ್ ರೆಕಾರ್ಡ'' ವ್ಯೆಯಕ್ತಿಕ ದಾಖಲೆ ಪಡೆದ ಮಹಾವಿದ್ಯಾಲಯದ ಹೆಮ್ಮೆಯ ವಿದ್ಯಾರ್ಥಿ

15-05-2022 16-06-2022

ಕರ್ನಾಟಕ ಆಲಿ ರೋಜಾ ಸಂಸ್ಥೆ ಹುಬ್ಬಳ್ಳಿಯಿಂದ ''ರಾಜ್ಯಮಟ್ಟದ ಆಲಿ ರೋಜಾ ಸ್ಪರ್ಧೆಯಲ್ಲಿ 01) ಕುಮಾರ.ಸುಮಿತ್ ಪಾಲೇಕರ 02) ಕುಮಾರ. ರಾಕೇಶ ಹಡಿಕ ವಿದ್ಯಾರ್ಥಿಗಳು ಭಾಗವಹಿಸಿ ಇವರಲ್ಲಿ ಪ್ರಥಮಸ್ಥಾನದೊಂದಿಗೆ ರಾಷ್ಟ್ರಮಟ್ಟಕ್ಕೆ ಆಯ್ಕೆಯಾದರು.

25-07-2022

ಮುಧೋಳದ ಕವಲಿ ಮಹಾವಿದ್ಯಾಲಯ ಬಾದಾಮಿಯಲ್ಲಿ ನಡೆದ ರಾ. ಸೇ. ಯೋ. ವಿಶೇಷ ಶಿಬಿರದ ಮುಧೋಳ ಕ್ಲಸ್ಟರ್ ಮಟ್ಟದ ಕುಸ್ತಿ ಪಂದ್ಯಾವಳಿಯಲ್ಲಿ ಭಾಗವಹಿಸಿ 15 ತಂಡಗಳು ಭಾಗವಹಿಸಿದ್ದವು ಈ ಕ್ರೀಡಾಕೂಟದಲ್ಲಿ 6ನೇ ಸ್ಥಾನ ನಮ್ಮ ತಂಡ ಪಡೆದುಕೊಂಡಿತು.

06-08-2022

ಆಜಾದಿ ಈ ಅಮೃತ ಮಹೋತ್ಸವ ಅಂಗವಾಗಿ ''ಸ್ವಾತಂತ್ರ್ಯ ಓಟ'' ಕಾರ್ಯಕ್ರಮವನ್ನು ಹಮ್ಮಿಕೊಳ್ಳಲಾಯಿತು. ಅದರಲ್ಲಿ ಬಾಲಕರ ವಿಭಾಗ ಶ್ರೀ ಆರ್ ಆರ್.ಗುಡಿ ಅಧ್ಯಕ್ಷರು ಡಾ.ಎಸ್.ಎಸ್.ಆಮಠೆ

08-08-2022

ರಾಣಿ ಚೆನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಏರಡನೇ ಪಲಯದ ಪುರುಷರ ಖೋಖೋ ಪಂದ್ಯಾವಳಿಯನ್ನು ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯವು ಅತ್ಯುತ್ತಮವಾಗಿ ಸಂಘಟಿಸಿ, ಸದರಿ ಕ್ರೀಡಾಕೂಟದಲ್ಲಿ ಒಟ್ಟು 16 ತಂಡ ಭಾಗವಹಿಸಿದ್ದು ನಮ್ಮ ಮಹಾವಿದ್ಯಾಲಯದ ಖೋಖೋ ತಂಡ ರನ್ನರ್ ಅಪ್ ಸ್ಥಾನ ಪಡೆದುಕೊಂಡು ಅಂತರವಲಯ ಮಟ್ಟಕ್ಕೆ ಆಯ್ಕೆಯಾಯಿತು.

12-06-2022

ಸೀಮಾ.ಮಂಗಸೂಳಿ ಕವಲಿ ಮಹಾವಿದ್ಯಾಲಯ ಸಿಂದಗಿಯಲ್ಲಿ ರಾ.ಸೇ.ಯೋ.ಯ ಅಂತರವಲಯ ಪುರುಷರ ಖೋಖೋ ಪಂದ್ಯಾವಳಿಯಲ್ಲಿ ಭಾಗವಹಿಸಿ 4ನೇ ಸ್ಥಾನ ಪಡೆದುಕೊಂಡಿತು.

29-07-2022 ಹಾಗೂ 30-07-2022

ಹೊಳಲೇಟಿಯಲ್ಲಿ ನಡೆದ ''36 ಗಂಟೆ ನಿರಂತರ ಡಾಬಲ್ ಡಚ್ಚೆ'' ಆಲಿರೋಜಾ ಪವರ್ಸ ರೆಕಾರ್ಡಸನಲ್ಲಿ ಕುಮಾರ. ಸುಮಿತ್ ಪಾಲೇಕರ ಹಾಗೂ ರಾಕೇಶ ಹಡಿಕ ಭಾಗವಹಿಸಿ ಪವರ್ಸ ರೆಕಾರ್ಡಸ ದಾಖಲೆಯೊಂದಿಗೆ ಮಹಾವಿದ್ಯಾಲಯಕ್ಕೆ ಹೆಮ್ಮೆ ತಂದಿದ್ದಾರೆ.

29-08-2022

ರಾಷ್ಟ್ರೀಯ ಕ್ರೀಡಾ ದಿನಾಚರಣೆಯನ್ನು ಆಚರಿಸಲಾಯಿತು. ಈ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಮಾನ್ಯ ಪ್ರಾಚಾರ್ಯರು ಹಾಗೂ ಎಲ್ಲಾ ಸಿಬ್ಬಂದಿ ವರ್ಗದವರು ಭಾಗವಹಿಸಿದ್ದರು.

29-10-2022

ಬಸವೇಶ್ವರ ದೈಹಿಕ ಶಿಕ್ಷಣ ಮಹಾವಿದ್ಯಾಲಯ ವಿದ್ಯಾಗಿರಿ, ಬಾಗಲಕೋಟೆಯಲ್ಲಿ ನಡೆದ ರಾ.ಸೇ.ಯೋ ಯ ಬಾಲಕರ ಟೆನ್ನಿಸ್ ಕ್ರೀಡೆಯಲ್ಲಿ ಕುಮಾರ. ರಾಜು ಚಲವಾದಿ ಏರಡನೇ ಕಾಯ್ಕಿಟ್ಟು ಆಟಿಗಾರರಾಗಿ ಆಯ್ಕೆಯಾದರು.

01-01-2023

ಸರಕಾರಿ ಪ್ರಥಮ ದರ್ಜೆ ಮಹಾವಿದ್ಯಾಲಯ ಸವದತ್ತಿ, ಬಾಗಲಕೋಟೆಯಲ್ಲಿ ನಡೆದ ರಾಣಿ ಚೆನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಬಾಲಕಿಯರ ಬಾಲ್ ಬ್ಯಾಡ್ಮಿಂಟನ್ ಆಯ್ಕೆ ಪ್ರಕ್ರಿಯೆಯಲ್ಲಿ ಕುಮಾರಿ.ಪ್ರೀತಿ ಮಾಗಿ ಏರನೇ ಕಾಯ್ಕಿಟ್ಟು ಆಟಿಗಾರ್ತಿ ಆಗಿ ಉತ್ತಮ ಪ್ರದರ್ಶನ ತೋರಿದ್ದರು.

17-01-2023 ರಿಂದ 19-01-2023

ಪ್ರಥಮ ಪಿಯುಸಿಯಲ್ಲಿ ಮತ್ತು ಸಿಸಿಯಲ್ಲಿ ವಾಲಿಬಾಲ್‌ನ್ನು ಚಾಂಪಿಯನ್ಷಿಪ್ 2023 ರಾಜ್ಯಮಟ್ಟದ ಕ್ರೀಡಾಕೂಟವನ್ನು ಯಶಸ್ವಿಯಾಗಿ ಸಂಘಟಿಸಿ, ಸದರಿಕೂಟದಲ್ಲಿ 25 ಜನ ಸದ್ರಿ ಮಹಾವಿದ್ಯಾಲಯ ವಿದ್ಯಾರ್ಥಿಗಳು ಭಾಗವಹಿಸಿ ಚಾಂಪಿಯನ್ ತಂಡವಾಗಿ ಉತ್ತಮ ಸಾಧನೆ ಮಾಡಿತು.

09-02-2023 ರಿಂದ 15-02-2023

ಜಮ್ಮುಕಾಶ್ಮೀರದ ಗುಲಾಬ್‌ಗಡದಲ್ಲಿ ನಡೆದ 3ನೇ ಖೇಲೋ ಇಂಡಿಯಾ ಕ್ರೀಡಾಕೂಟದಲ್ಲಿ ಸದ್ರಿ ಮಹಾವಿದ್ಯಾಲಯದ 1) ಆಕಾಶ್ ಆರ್ ಗೌಡ 02) ಸುಕೇಷಾ ಕುರಿ ಭಾಗವಹಿಸಿದ್ದರು.

14-02-2023 ರಿಂದ 15-02-2023

ರಾಷ್ಟ್ರೀಯ ಸೇವಾ ಯೋಜನಾ ಘಟಕ ಹಾಗೂ ಮಹಿಳಾ ಹಾಸ್ಟೆಲ್ ಮತ್ತು ಮಹಿಳಾ ಹಾಸ್ಟೆಲ್ ಸಂಸ್ಕೃತಿ ಕಲಾ ಸಂಘ(ರಿ) ಬಾಗಲಕೋಟೆ ಇವರು ಆಯೋಜಿಸಿದ್ದ " ಬ್ಲಾಕ್ ಮಟ್ಟದ ಕ್ರೀಡಾಕೂಟದಲ್ಲಿ ಸದ್ರಿ ಮಹಾವಿದ್ಯಾಲಯದ ಪುರುಷರ ಕಬಡ್ಡಿ ಮತ್ತು ವಾಲಿಬಾಲ್ ತಂಡ ಮಹಿಳೆಯರ ಥ್ರೋಬಾಲ್ ತಂಡ ಪ್ರಥಮ ಸ್ಥಾನ ಪಡೆದುಕೊಂಡವು.

21-06-2023

ವಿಶ್ವಯೋಗ ದಿನವನ್ನು ಎಲ್ಲಾ ವಿದ್ಯಾರ್ಥಿಗಳು ಹಾಗೂ ಬೋಧಕ ಸಿಬ್ಬಂದಿಯೊಂದಿಗೆ ಅತ್ಯಂತ ಅರ್ಥಪೂರ್ಣವಾಗಿ ಆಚರಿಸಲಾಯಿತು.

22-08-2023 ರಿಂದ 25-08-2023

"ಕ್ರೀಡಾ ಸಂಭ್ರಮ-2023" ಎಂಬ ಶೀರ್ಷಿಕೆಯಡಿಯಲ್ಲಿ 4 ದಿನಗಳವರೆಗೆ ಬಾಹ್ಯ ಕ್ರೀಡಾಕೂಟವನ್ನು ಸಂಘಟಿಸಲಾಯಿತು. ಸದರಿ ಕ್ರೀಡಾಕೂಟದ ಉದ್ಘಾಟನಾ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ದಿವ್ಯಸಾನ್ನಿಧ್ಯ ಪೂಜ್ಯಶ್ರೀ ಗುರುಮಹಾಂತ ಸ್ವಾಮೀಜಿಯವರು ಅಧ್ಯಕ್ಷತೆ ಪ್ರಾ ಎಸ್.ಎಸ್.ಅಮಲಿ ಉದ್ಘಾಟನೆ- ಶ್ರೀ.ಎಮ್.ಬಿ.ಪಾಟೀಲರು ಮುಖ್ಯ ಅತಿಥಿಗಳಾಗಿ ಶ್ರೀ ಪ್ರಶಾಂತ ಅಪ್ಪೋಜಿಪ್ಪೆ ಪಾಲ್ಗೊಂಡಿದ್ದರು.

Shri Vijay Mahantesh Vidyavardhak Society's

Shri Vijay Mahantesh Arts, Science & Commerce College, ILKAL – 587125.
Dt: Bagalkot State: Karnataka

Dr.S.S.Awati
Principal

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Office No: 9731240260

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Web: www.vmahantesh.edu.in

List of Slow Learners – 2022-23

Department: Sociology Class: BA IInd Year: 2022-23

Sl. NO	Register No	Name of the Student	Class	Gender	Startegy Adopted
1	[illegible]	Mallikarjun	IInd	M	Regular class
2	[illegible]	Prakash Yaragoda	IInd	M	"
3	[illegible]	Siddaraj	IInd	M	"
4		Rajeshwari Mattiwaddar	IInd	F	"
5		Imrana Chalawadi	IInd	F	"

HOD
(Dr. Sattiwaddar)

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Principal

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List of Advance Learners - 2022-23

Department: Sociology

Class: VI Th - Sem

Year: 2022-23

Sl. NO	Register No	Name of the Student	Class	Gender	Startegy Adopted
1		Bajarangi C	BA 5th	M	Remedial Classes
2		Nibar Singad	"	M	"
3		Manjunath Kowad	"	M	"
4	0052	Abhishek B	BA IV	M	"
5	0068	Dattaraj Gouradi	"	M	"
6	0003	Abhishek Kulkarni	BA III	M	"
7	0052	Pratyush	"	M	"
8	0019	Shaquid	"	M	"
9	0023	Rajkumar Y.	"	M	"

HOD
(Dr. Shivanand Kerakalli)