

M.Sc. Botany
Semester-III

BOT- 312
Plant Resource Utilization

Maximum Marks: 100
Theory Examination: 80
Internal Assessment: 20
Time: 3 hrs

Note: There shall be nine questions in all. Question no. 1 shall be compulsory, consisting of eight short answer type questions covering the entire syllabus. Two questions will be asked from each unit. Student will have to attempt one question from each unit. Each question shall carry equal marks.

Unit-I

Origin of Agriculture, World Centres of Primary diversity of domesticated plants: The Indo-Burma Centre, Plant Introductions and Secondary Centres. Origin, Distribution, Types, Botany, Cultivation, Harvesting and uses of Wheat and Rice. History, Botany, Breeding, Cultivation and uses of following fruits and vegetables: Mango, Apple, Banana, Potato, Alliums, Cabbage, Spinach and Tomato

Unit-II

General Account of the Spices: Ginger, Turmeric, Cinnamon, Clove, Umbelliferous spices and Peppers. Beverage Plants: Source and general account of Tea and Coffee.
Legumes: Origin, Botany, Cultivation and uses of Pigeon pea, Chick pea, Cluster bean, French bean etc.
Medicinal Plants: Plants as sources of drugs, parts used, composition and uses.

Unit-III

Gums: Important commercial gums and their uses.
Tannins and Dyes: Sources and their uses.
Vegetable Oils and Fats: Distinction between fatty and essential oils. Drying (Soyabean and linseed), nondrying (Groundnut and Mustard oil) and Semi drying (Cotton seed and Sunower oil) oils and their uses.
Fibres: Classification, uses, type of bres - Soft bres, Hard bres, Surface bres, Brush bres and Braiding bres.

Unit-IV

Wood and its Uses: Soft woods and hard woods, wood as fuel, construction material Unexploited plants of potential economic value; plants as a source of renewable energy. Genetic Resources and their conservation.

Suggested readings:

1. Anonymous. National Gene Bank: Indian Heritage on Plant Genetic resources (Booklet). National Bureau of Plant Genetic Resource, New Delhi. 1997.
2. Cobby, L.S. and W.M. Steels. An Introduction to the Botany of Tropical Crop Plants. 3rd Ed. The English Language Book Society and Longman, London. 1979.
3. Bole, P.V. and Y. Vaghani. Field Guide to Common Indian Trees. Oxford University Press, Mumbai. 1991.
4. Chandel, K.P.S., G. Shukla and N. Sharma. Biodiversity in Medicinal and Aromatic Plants in India: Conservation and Utilization. National Bureau of Plant Genetic Resources, New Delhi. 1996.
5. Conway, G. and V.W. Rattan. The Doubly Green Revolution. Food for all in the 21st Century. Cornell Univ. Press. 1999.
6. Dastur, J.F., Medicinal Plants of India and Pakistan, 3rd Edition, Meyerbooks, 1985.
7. Hill, A.F. Economic Botany. McGraw Hill Book Co. Inc., New York, 1986.
8. Kirtikar, K.R. & D.D. Basu. Indian Medicinal Plants. Vols. I & II. 2nd Ed. Lalit Mohan Basu, Allahabad. 1953.
9. Kochhar, S.L. Economic Botany of the Tropics. 2nd Ed. MacMillan India Ltd., Delhi.
10. Leonard, W.H. & J.H. Martin. Cereal Crops. MacMillan Co., New York, USA. 824 pp. 1963.

Open Elective

(Provided by the Deptt of Computer Science)

Paper MCA-Introduction to Computer

Max. Marks: 60.

Time: 3 Hrs.

Note: The examiner shall set nine questions in all covering the whole syllabus. Question No.1 will be compulsory covering all the units and shall carry 6 small questions of two marks each. The rest of the eight questions will be set from all the four units. The examiner will set two questions from each unit out of which the candidate shall attempt four questions selecting one question from each unit. All questions shall carry 12 marks each.

Learning Objectives:

1. Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing.
2. Provide hands-on use of Microsoft Office 2013 applications Word, Excel, Access and PowerPoint. Completion of the assignments will result in MS Office applications knowledge and skills.
3. Provide foundational or “computer literacy” curriculum that prepares students for life-long learning of computer concepts and skills. Completion of course fulfills pre-requisite to enroll in other computer science courses required for a certificate, A.A. degree, transfer to the university or to qualify for highdemand employment.

Unit-I

Basic Concepts: What is computer, Characteristics of a Computer, Advantages of Computer, Limitations of Computer, Types of computer, Applications of computer, Data Representation, Hardware, firmware, Live-ware, Software: Relationship between hardware and software, System software: Operating system, Translators, Interpreter, Compiler, Assemblers, Linkers. Overview of operating system, Functions of operating system

Unit-II

Information Systems: Meaning, Need of an efficient Information system, Types of Information System. Information requirement for Planning, Coordination, and control for various levels in Business, Industry. Basic of data arrangement and access.

Introduction to database: Definition, Uses of databases, characteristics of database, DBMS, data independencies, difference between traditional file processing system and database approaches.

Unit-III

Net works: LAN, WAN. Wireless Network, Introduction networking, Importance of networking, Communication devices such as Modem, Features of Networking, Introduction to Internet: Meaning of Internet, Growth of Internet, Owner of Internet, Anatomy of Internet, Basic Internet Terminology, World Wide Web, Internet Protocols, Usage of Internet to society, Search Engines.

Unit-IV

Introduction to MS Word: Features of MS Word, component of word document window, creating and Printing a document, Formatting text and document, Mail Merge, Macro, Export and Import file, working with auto shapes, Adding pictures to a work document,
Introduction to MS Excel: Features of Excel, Creating a table, Formatting worksheet, Types of graph, Excel functions, Printing a worksheet, Managing and Organizing data. Power point presentation.

Learning Outcomes:

1. Utilize the Internet Web resources and evaluate on-line e-business system.
2. Solve common business problems using appropriate Information Technology applications and systems.
3. Identify categories of programs, system software and applications. Organize and work with files and folders.
4. Describe various types of networks network standards and communication software.

INDIRA GANDHI UNIVERSITY, MEERPUR, REWARI

DEPARTMENT OF ECONOMICS
OPEN ELECTIVE PAPER

(To be offered to students of other Departments of the University)

**THIRD SEMESTER
ISSUES IN INDIAN ECONOMY
ECO- 321**

Maximum Marks: 100

Time: 3 Hrs.

External Examination: 80

Internal Assessment: 20

Note: The question paper shall have five units. Each of the first four units will contain two questions and the students shall be asked to attempt one question from each unit. Unit five shall contain eight short answer type questions without any internal choice, covering entire syllabus.

Unit-I

Introduction of Indian Economy, Features of Indian economy; Nature and Characteristics of Indian economy.

Unit-II

Agriculture: Role and features of Indian agriculture; WTO and Indian agriculture, Poverty in India - Absolute and relative analysis of poverty.

Unit-III

Concepts of Demography- Vital rates, life tables, composition and uses. Measurement of fertility - Total fertility rate, gross and net reproduction rate - Age pyramids, Characteristics of Indian population through recent census.

Unit-IV

Monetary policy of RBI; Growth and problem; Role of commercial banks in India; Banking sector reforms since 1991

SUGGESTED READINGS:

- Bardhan. P.K. (9th Edition) (1999), The Political Economy of Development in India, Oxford University Press, New Delhi. .
- Brahmanada, P.R. and V.R. Panchmukhi (Eds.) (2001), Development Experience in the Indian Economy: Inter-State Perspectives, Bookwell, Delhi.
- Datta, R. and KP.M. Sundhram (2003), Indian Economy. S. Chand & Company Ltd. New Delhi. Government of India, Economic Survey, (Annual), Ministry of Finance, New Delhi.
- Mishra, S.K and V.K Puri Indian Economy- 151 Development Experience, Himalaya Publishing House, Mumbai, Latest Edition.
- Rudra Ashok, Indian Plan Models.
- Todaro, P. Development Planning: Models and Methods. United Nations, Guidelines for Project Evaluation. Sen, R.K. and B. Chatterjee (2001), Indian Economy: Agenda/or 21st Century:
- Dhar, P.K., Indian Economy - Its growing dimensions, Kalyani Publishers, New Delhi (Latest Edition) Mishra, S.K. and V.K. Puri Indian Economy - 1st Development Experience, Himalaya Publishing House, Mumbai, Latest Edition.
- Economic Surveys, Government of India, various issues.
- Reserve Bank of India, Report on Currency and Finance (Annual).

M.Sc. Environmental Sciences: Semester-3
HYDROLOGY AND WATER RESOURCES
Course Code-EVS307OEC
Exam Course Code-307

End Semester Exam : 80 marks
Internal Assessment : 20 marks
Total : 100 marks

Time : 3 hrs.

Hydrology and water resources:

The course introduces the student to the hydrologic cycle and various characteristics of surface and groundwater resources including different techniques of water management. It also introduces them to basic analytical methods to quantify water quality and determine hydrological parameters.

UNIT I

Introduction: The hydrologic cycle: Structure and properties of water, Inventory of Earth's water, quality and quantity. Limits of cations and anions in portable water including fluoride and arsenic, phosphate, nitrate and heavy metals. Application of isotopes in hydrology. Hydrogeology of India.

UNIT II

Surface water resources: precipitation, infiltration, water balance, Evapo-transpiration and runoff, Drainage basin. Groundwater resources: rock properties affecting ground water, vertical distribution of ground water, zone of saturation. Darcy's law: permeability, transmissivity and storage coefficient. Viscous character of groundwater flow. Geologic formations as aquifers, type of aquifers. Distribution of water - local, regional and global. Ground water exploration.

UNIT III

Environmental Influences on water resources: surface and groundwater resources of arid and semiarid regions, Snowmelt hydrology from glaciers, fluctuations due to urbanization, Evapo-transpiration and tides. Recent development in surface and groundwater resources monitoring and assessing processes. Salinity ingress in ground water. Water logging and soil salinity-conjunctive use of surface water and ground water.

UNIT IV

Water resource management: Flood and flood plain management: Water-shed management, water harvesting and artificial recharge to ground water: water pollution and water treatment. Wetland and riparian management: forest management on water resources. Environmental issues: River linking debate. Dams and their impacts.

Note: The question paper will have nine questions in all. Question No. 1 shall be compulsory and will contain eight short answer type questions (not exceeding 50 words each) covering entire syllabus. In addition, the question paper will have four units consisting of two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. All questions carry equal marks.

Suggested Readings:

- Aggarwal, A., 1991, Floods, Floodplains and Environmental Myths. Centre for Science and Environment, New Delhi.
- Andrew D. Ward and Stanley Trimble, 2004, 2ndEd., Environmental Hydrology, Lewis Publishers.
- Karanth, K.R.C., 1988, Ground Water: Exploration, Assessment and Development. Tata-McgrawHill, New Delhi.
- Mahajan, G., 1989, Evaluation and Development of Groundwater. Ashish Publishing House, New Delhi.
- Rao, K.L., 1982, India's water wealth. Orient Longman, Delhi.
- Subramaniam V., 2002, Text Book of Environmental Science, Narosa Publishing House, Delhi.
- Timothy, Davie, 2003, Fundamentals of Hydrology. Rowledge, Taylor and Francis Group, U.K.
- Todd, D.K., 2004, Groundwater Hydrology, John Wiley & Sons Inc.
- Vijay P. Singh, 1995, Environmental Hydrology. Kluwer Academic Publications, The Netherlands.
- Wright. R.T and Nebel. B.J., 2002, Environmental Science: toward a sustainable future, Prentice Hall India Ltd, 8th Edition.

Master of Business Administration (MBA)
Semester-III
Basics of Management
MBA 330 (Open Elective Course)

Maximum Marks: 100
External Marks: 80
Internal Assessment: 20
Time: 3 Hrs.

Note: *There shall be nine questions in all. Question No. 1 shall be compulsory, consisting of eight short answer type questions covering the entire syllabus. Two questions will be asked from each unit. Students will have to attempt one question from each unit. Each question shall carry equal marks.*

Unit I

Management: Introduction, definition, functions and levels of Management; Evolution of management thought: The Scientific Management School, Classical organisation theory school, the Behavioural School, System and Contingency approach.

Unit II

Planning: meaning and nature and importance of planning, types of plans, process of planning; Organizing: Nature, objectives, elements and process of organizing; Basic concepts: departmentation, line and staff, centralization and decentralization, delegation of authority; Types of organisation structure.

Unit III

Direction: concept, its significance and main elements, Motivation: nature, importance and theories (Maslow Need Hierarchy, Hertzberg two factor); Leadership: Meaning and Importance, leadership styles and skills.

Unit IV

Control - concept, nature, its process & importance; Recent trends in management: Knowledge management, Total Quality Management; Corporate governance; Ethical dilemmas in Management.

Case discussion is compulsory at the end of every unit.

Suggested Readings:

1. Koontz, H, O'Donnell, C & Wehrich, H, *Management*, McGraw Hill.
2. Koontz, Harold & Wehrich Heinz (2015) *Essentials of Management An international, Innovation, and Leadership Prospective*, 10th ed., McGraw Hill, New Delhi.
3. Stoner, James A F, Freeman, R Edward & Gilbert Jr, Daniel R (2013), *Management*, 6th ed., Pearson Education, New Delhi.
4. Robbins, S P and Decenzo, D (2017) *Fundamentals of Management*, Pearson Education, New Delhi.
5. Vasishth, N, Vasishth, V. *Principles of Management: Text and cases*, Taxmann Publications Pvt. Ltd., New Delhi.
6. Terry, G.R. & Franklin, S G, *Principles of Management*, McGraw Hill Higher Education.

तृतीय सेमेस्टर
सप्त प्रश्नपत्र (मुक्त ऐच्छिक पाठ्यक्रम)
संप्रेषण कौशल

समय : 3 घण्टे
अंक

पूर्णांक : 100

आंतरिक मूल्यांकन : 20 अंक

लिखित परीक्षा : 80 अंक

निर्देश –

- 1 पाठ्यक्रम में निर्धारित प्रत्येक इकाई में से तीन-तीन प्रश्न पूछे जाएंगे जिनमें से परीक्षार्थी को प्रत्येक इकाई से दो-दो प्रश्न का उत्तर देना होगा। कुल आठ प्रश्न करने होंगे। प्रत्येक प्रश्न के लिए 9 अंक निर्धारित हैं। पूरा प्रश्न 72 अंक का होगा।
- 2 पूरे पाठ्यक्रम में से 8 वस्तुनिष्ठ अनिवार्य प्रश्न पूछे जाएंगे। प्रत्येक प्रश्न एक-एक अंक का होगा।

इकाई-1 भाषा और संप्रेषण

भाषा का स्वरूप, संप्रेषण का स्वरूप

संप्रेषण के मूल तत्व, संप्रेषण की विशिष्टता,

ध्वनि, ध्वनियों का वर्गीकरण एवं उच्चारण कौशल,

वाक्य विन्यास, आंगिक चेष्टाएं और संप्रेषण के विविध रूप

इकाई-2 श्रवण-कौशल

श्रवण कुशलता (प्रभावी श्रवण)

श्रवण सक्रियता

पुनर्रचना के लिए श्रवण

रूपरेखा के लिए श्रवण

इकाई-3 लेखन-कौशल

प्रभावी लेखन, संचार माध्यम के लिए लेखन,

पुनर्रचना सार संक्षेपण,

रिपोर्ट लेखन, विविध पत्र लेखन, प्रारूपण एवं टिप्पण लेखन

इकाई-4 संवाद-कौशल

संवाद का स्वरूप

साक्षात्कार कौशल विधि

सामाजिक आदान-प्रदान के तौर-तरीकों का अध्ययन

अभिवादन कौशल, भाषण, वाद—विवाद, सामूहिक परिचर्चा आदि

सहायक ग्रंथ

भाषा शिक्षण : रवीन्द्रनाथ श्रीवास्तव, वाणी प्रकाशन, नई दिल्ली

हिन्दी भाषा : संरचना और प्रयोग, रवीन्द्रनाथ श्रीवास्तव आलेख प्रकाशन नई दिल्ली

व्यवसायिक हिन्दी : डॉ० भोलानाथ तिवारी / महेन्द्र चतुर्वेदी, शब्दाकार प्रकाशन दिल्ली

सृजन और संप्रेषण : स० ही० वात्स्यायन 'अज्ञेय', संचित प्रकाशन दिल्ली

जनसंचार माध्यमों का सामाजिक चरित्र, जबरीमल पारिख, अनामिका प्रकाशन, नई दिल्ली

M.Sc. Physics Semester III
Open Elective – II
(To be Chosen by other Department Students)
Sources of Energy –II

Theory Marks: 80
Internal Assessment: 20
Time: 3 hours

Course Objectives:

1. To understand about Bio mass and their advantages and disadvantages
2. To understand availability of ocean thermal energy
3. To understand about petroleum & coal energy
4. To understand what is nuclear energy and its uses.

Unit I

Bio-mass:

Introduction of biogas, Availability of bio-mass and its conversion theory, classification of biogas plants, principle & working of floating drum plant & fixed dome type plant-advantages & disadvantages. Biogas from plant waste, community biogas plants, utilization of biogas.

Unit II

Ocean Thermal Energy Availability, theory and working principle, performance and limitations.

Wave and Tidal Wave:

Principle, working, performance and limitations.

Unit III

Petroleum and Coal energy

Petroleum, origin, composition, production, extraction, octane number, kerosene, LPG, lubricants natural gas, physical properties and uses of coal, generis of coal, molecular structure, determination of fixed carbon content, coal for generation of electricity, zero emission power plants, coal reserves and mining.

Unit IV

Nuclear Energy

Nucleus and its constituents, charge mass, isotopes, isobars, mass defect, binding energy and nuclear stability, radiation and nuclear reactions.

Nuclear fission, chain reaction, U^{235} , U^{238} , controlled nuclear fission and nuclear reactors, fast breeder reactor, nuclear fusion, condition for nuclear fusion reaction, Hydrogen bomb, Nuclear bomb.

Course Outcomes:

1. Students would apply Bio mass concept to practical life
2. Students can use ocean energy for our daily life
3. Students would able to understand the concept of fuel energy and nuclear energy

Text / References Books:

1. John Twideu and Tony Weir, "Renewal Energy Resources" BSP Publications, 2006
2. M.V.R. Koteswara Rao, "Energy Resources: Conventional & Non-Conventional" BSP Publications, 2006.
3. D.S. Chauhan, "Non-Conventional Energy Resources" New Age International.
4. C.S. Solanki, "Renewal Energy Technologies: A Practical Guide for Beginners" PHI Learning.
5. Peter Auer, "Advances in energy system and Technology" Vol I & II Edited by

Academic Press.

6. Raja A.K., "Introduction to Non-Conventional Energy Resources" Scitech Publications.
7. G.D. Rai, "Non-conventional Energy sources" Khanna Publishers

M.A. English (Final)

Session 2019-20

Semester III

Paper XX

Course Code:

Time: 3 Hours

Total: 100

Communication Skills-I

Total Credits: 4+1 = 5

Theory: 80

Internal Assessments: 20

Objectives:

1. To improve the basic skills of reading, writing, listening and speaking among students of any subject.
2. To prepare students to face interviews and group discussions.
3. To acquaint students with the contemporary, colloquial and idiomatic expressions in language.
4. To train them in practical letter writing and forms of business communication

Unit I: Understanding Communication Skills

- i. What is communication, types of communication?
- ii. Media of communication, channels of communication
- iii. Barriers to effective communication.
- iv. Role of communication skills in society

Unit II: Understanding figurative language

- i. Idioms and phrases, making sentences with at least 50 contemporary idioms and phrases should be taught
- ii. Agreement of subject and verb, correct usage of prepositions.
- iii. Conditional sentences.
- iv. New terms from Management, Information Technology and social media should be taught..

Unit III: Letter writing

- i. Resume writing and job application
- ii. Business letters (Orders, Inquiries, Sales letters, Complaints)
- iii. Memos and replies to memos.
- iv. Emails

Unit IV: Presentation Skills

- i. How to effectively organize thoughts, research and data collection for speech/presentation, the use of logic and sequence, central idea.
- ii. Oral presentation, diction, tone, clarity and body language.
- iii. Power point presentation
- iv. Time management and preparation, adaptation skills if changes occur.

INDIRA GANDHI UNIVERSITY, MEERPUR, REWARI
DEPARTMENT OF POLITICAL SCIENCE OPEN ELECTIVE COURSE
(To be offered to students of other Departments of the University)
Third Semester
HUMAN RIGHTS IN INDIA

Maximum Marks: 100
Time: 3 Hrs.

External Examination: 80
Internal Assessment: 20

Note: The question paper shall have five units. The candidate shall attempt five questions in all. Question No.1 will be compulsory question will consist of eight short answer type questions of equal marks (i.e. 2 marks each) spread over the whole syllabus. The candidate shall attempt four more questions selecting at least one from each unit. Each question will carry 16 marks.

Unit: I

- The Concept of Human Rights: Western and Third World Context

Unit-II

- Human Rights and Constitutional - Legal Framework in India, Fundamental Rights, Directive Principles of State Policy and Protection of Human Rights Act, 1993

Unit-III

- Human Rights: Issues and Challenges: Refugees, Minorities, Women and Children

Unit-IV

- Civil Society and Human Rights: Media, Public Opinion and Human Rights

SUGGESTED READINGS:

- Alston Philip, The United Nations and Human Rights-A Critical Appraisal, Oxford, Clarendon, 1995.
- Baxi, Upendra (ed.), The Right to be Human, Delhi, Lancer, 1987
- Beetham, David edited, Politics and Human Rights, Oxford, Blackwell, 1995
- Desai, A R. (ed), Violations of Democratic Rights in India, Bombay, Popular Prakashan, 1986.
- Evans, Tony, The Politics of Human Rights: A Global Perspective, London, Pluto Press, 2001.
- Haragopal, G, Good Governance: Human Rights, Perspective, Indian Journal of Public Administration, Vol. 44 (3), July-September, 1998.
- Hargopal, G. Political Economy of Human Rights, Hyderabad, Himalaya, 1999.
- Human Rights in India- The Updated Amnesty International Reports, Delhi, Vistaar

M.Sc. Geography: Semester -3

FUNDAMENTALS OF GEOGRAPHY

Course Code-16GEOG301OEC

Exam Course Code -3069

External Exam : 80 marks
Internal Assessment : 20 marks
Total : 100 marks
Time : 3 hrs.

Unit-I

Solar System, Solar and Lunar Eclipses; Earth-shape, movements, formation of day/nights and seasons; location-latitude-longitude, longitude and time zones, International Date Line.

Unit-II

Interior of earth: volcanism and earthquakes; plate tectonics; weathering and erosion; Relief, Introduction to major landforms.

Unit-III

Weather and climate: factors affecting and distribution; composition and structure of atmosphere:

Atmospheric pressure and global winds; introduction to Monsoon.

Unit-IV

Relief of oceans: oceanic salinity; circulation of oceanic water; currents of Atlantic, Pacific and Indian Oceans.

Note: Question No. 1 shall be compulsory and will contain eight objective type questions covering entire syllabus. In addition, the question paper will have four units consisting of two questions each. Candidate(s) are required to attempt one question from each unit. All questions carry equal marks.

Recommended Readings

Leong, Goh Cheng., 2015, *Certificate Physical and Human Geography*, Oxford University Press, New Delhi.

Getis, Arthur and Blij and Mark and Getis Victoria., 2014, *Introduction to Geography*, McGraw Hill Education.

Singh, Savinder., 2006, *Physical Geography*, Pravalika Publications, Allahabad.

Strahler, Alan and Strahler, Aurther., 2005, *Introducing Physical Geography*, John Wiley & Sons, Inc.

Open Elective Paper

Foundation of Yoga

Paper code-OEPY-17

Max. Marks:60

Note:- 1. Question No. 1 will be compulsory and will carry 12 marks. It will comprise of 6 short answer type question of 2 marks each to be selected from the entire syllabus.

2. Four questions will be set from each unit, out of which the student will be required attempt one question from each unit. Questions will carry 12 marks each.

Unit -1

- Origin of Yoga, History, Definitions, Importance, Development of Yoga, aim and objectives of Yoga
- Introduction to streams of Yoga – Karma Yoga, Gyan Yoga, Bhakti Yoga
- Elements of Yoga and Yogic practices in Jainism and Buddhism

Unit - 2

- Definition of Hath Yoga, Concept of Mattha, Time, Mithara, Success and Failure elements of Hath Yoga
- Concept, Definition, Benefits, Techniques, Precautions of Sodhan kriya, Asana, Pranayam and Meditation according to Gherand Samhita

Unit -3

- General introduction to Bhagvat gita, Patanjali Yoga Sutra
- Definition of Yoga in Bhagvat Gita and their relevance and scope, essentials of Bhagvat Gita
- Patanjali yog sutra -Yoga its meaning, purpose and nature of Yoga, chittavritis, kriya Yoga, concept of Ishvara and qualities of Ishvara theory of klesh, Ashtanga Yoga, Karma

Unit-4

- Biography of Various Yogies - Maharishi Patanjali, Gorkashnath, Maharishi Dayanand, Swami Vivekanand, Maharishi Arvind and Aadi Shankaracharya



Practical Yoga

Max. Marks: 40

- **Surya Namaskar**
- **Asana –**
 - A. Standing Posture:- Tadasana, Trikonasana, Vrikshasna
 - B. Sitting Posture – Patamasana, Paschimotanasana, Vajarasana, Ustrasana, Shashankasana
 - C. Prone posture – Bhujangasana, Dhanurasana, Shalbhasana
 - D. Supine Posture – Halasana, Sarvangasana, Setubandh, Chakrasana, Savasana
- **Pranayama –** Nadi Shodan, Bhastrika, Bharamri, Suryabhedhi, Sheetkari
- **Mudra –** Jnana Mudra, Vayn Mudra, Vipritkarani Mudra, Shambhavi
- **Bandh –** Moolbandh, Uddiyan Bandh, Jalandhar Bandh.
- **Meditation –** Om Meditation

III (a) Each candidate will prepare a practical note book in which Total 10 Asanas, Two Bandh, Suryanamaskar, Four Praanyanama long with photographs as per Class Teacher Advice from the above said complete syllabus.



Tax Planning for Individuals
Open Elective Course (in Third Semester)
MC.OEC-1
Total Credit-3

Time-3 Hrs.
Total Marks-100
External Marks-80
Internal Marks-20

Note: The examiner shall set nine questions in all covering the whole syllabus. Question No.1 will be compulsory and consist 8 small questions of two marks each, covering the whole syllabus. The remaining 8 questions will be set from the syllabus on two questions from each unit basis; out of which the students will attempt four questions selecting one from each unit. All questions carry 16 marks each

Unit-I

Introduction of Income Tax :Important Definitions- Assessee, Assessee in Default, Previous Year, Assessment Year, Meaning of Income, Casual Income, Gross Total Income, Total Income, Five Heads of Income, Tax Free incomes and Agriculture Income, Residential Status and Determination of Residential Status of an Individual, Tax Liability based on residential status. Rates of Income tax for senior citizen, Super Senior citizen and other individuals.

Unit-II

Income from Salary- Salary, Bonus, Commission, and Pension

Taxability on Allowances- Dearness Allowance, Medical Allowance, House Rent Allowance, Children Education Allowance, Uniform Allowance, Hostel Allowance, Warden Allowance.

Tax Liability on Perquisites- Rent Free House, Medical Facility, Education Facility, Use of Mobile, Laptop, Computer and Cars.

Retirement Benefits: Encashment of Earned Leave, Provident Fund, Gratuity, Encashment of Pension.

Unit-III

Taxable Income from House Property-Self Occupied House and Let out House Property. Deductions from House Property Income.

Income From Other Sources- Income from Interest, Dividend, Subletting, Royalty, Family Pension, Income of Insurance Agent.

Unit-IV

Some Important Deductions from Gross Total Income- Deduction Under Section 80C, 80CCC, 80CCD, 80D, 80E, 80QQB, 80TTA, and 80U.

Filing of online Income Tax Returns/ITR-1 for a Salaried Person.

Suggested Readings:

1. Direct Taxes law & Practice – Dr. H.C.Mehrotra & Dr. S.P. Goyal, Sahitya, Bhawan Publications, Agra.
2. Direct Taxes & Practice – Dr. V.K. Singhanian Taxmann Publication.
3. Direct Taxes law & Practice – Dr. Bhagwati Prasad – Wishwa Prakashan, N.Delhi.
4. Simplified Approach to income Tax: Dr. Girish ahuja & Dr. Ravi Gupta – Sahitya Bhawan Publishes & Distributors, Agra.
5. Income Tax : Law and Accounts, P.K.Gupta and N.K.Garg, Sanjay Sahitya Bhawan Agra.

M.Sc. Physics Semester II
Open Elective – I
(To be Chosen by other Departments)
Sources of Energy – I

Theory Marks: 80
Internal Assessment: 20
Time: 3 hours

COURSE OBJECTIVE:

1. To learn and understand the importance of alternate energy resources.
2. To study the fundamentals of renewable energy resources.

Unit I Introduction

Limitation of conventional energy sources, need and growth of alternative energy sources, basic scheme and application of direct energy conservation.

Solar Cells:

Solar energy: Introduction, The characteristics of the sun, Definitions related to solar radiations, solar radiation geometry, Estimation of daily solar radiation. Theory of solar cells. Solar cell materials, solar drying, solar furnaces, Solar cooking, solar green house technology, solar thermal power generation, solar cell array.

Unit II

Solar Thermal Energy:

Solar radiations, flat plate collectors and their materials, applications and performance, focusing of collectors and their materials, applications and performance; solar thermal power plants, thermal energy storage for solar heating and cooling, limitations.

Unit III Geothermal Energy:

Resources of geothermal energy, thermodynamics of geo-thermal energy conversion-electrical conversion, non -electrical conversion, environmental consideration, estimates of geothermal power, nature of geothermal fields, advantages & disadvantages of geothermal energy forms, applications of geothermal energy. Geothermal power plant.

Fuel Cells:

Principle, working of various types of fuel cells, performance and limitations.

Unit IV Wind Energy:

Wind power and its sources: Principle of working of Wind Energy, performance and limitations of energy conversion systems. Site selection, criteria, momentum theory, wind characteristics.

Course Outcome:

At the end of the course, a fully engaged student will be able to:

1. Understand the principles of solar energy and its environmental impact.
2. Learn the basics of solar energy collection and storage.
3. Study the basics of wind energy and geothermal energy.
4. Comprehend the use of ocean energy as an alternate source of energy.

Text / References Books:

1. John Twideu and Tony Weir, "Renewal Energy Resources" BSP Publications, 2006
2. M.V.R. Koteswara Rao, "Energy Resources: Conventional & Non-Conventional" BSP Publications, 2006.

3. D.S. Chauhan, "Non-Conventional Energy Resources" New Age International.
4. C.S. Solanki, "Renewal Energy Technologies: A Practical Guide for Beginners" PHI Learning.
5. Peter Auer, "Advances in energy system and Technology" Vol I & II Edited by Academic Press.
6. G.D. Rai, "Non-conventional Energy sources" Khanna Publishers
7. Raja A.K., "Introduction to Non-Conventional Energy Resources" Scitech Publications. Fahrenbruch and Bube, "Fundamentals of Solar cells. Photovoltaic Solar Energy"

M.A. English (Final)
Session 2019-20
Semester IV

Paper XX

Course Code:

Time: 3 Hours

Total: 100

Communication Skills-II

Total Credits: 4+1 = 5

Theory: 80

Internal Assessments: 20

Objectives:

1. To improve the basic skills of reading, writing, listening and speaking among students of any subject.
2. To prepare students to face interviews and group discussions.
3. To acquaint students with the contemporary, colloquial and idiomatic expressions in language.
4. To train them in practical letter writing and forms of business communication

Unit I : Reading and Comprehension

- a) How to improve reading skills; pronunciation; intonation; punctuation.
- b) Syllables and Phonetic Transcription
- c) Reading and comprehending: skimming the text, identifying unknown words and phrases; vocabulary.
- d) Note making and identifying the key concepts in a passage.

Unit II: Technical/Business Writing:

- a) Minutes writing
- b) Report writing
- c) The key concepts of technical writing
- d) Jargon, technical and official language.

Unit III: Group Discussion:

- a) Purpose of Group Discussion
- b) Types of Group discussion
- c) Brainstorming and preparation
- d) Time Management, participation and moderation.

Unit IV: Interview Techniques:

- a) Preparation, knowledge of job profile
- b) Emotional attitudes, commitment, positive approach
- c) Body language
- d) Expectations and negotiations