

North Maharashtra University, Jalgaon
Information about elective courses to be offered by different Schools for first year PG(MA/M.Sc./MCA/MBA/M.Ed.) students
from other schools of NMU campus under Choice Based Credit System (CBCS) with effect from academic year 2015-16

Sr. No.	Elective course		No. of Credits	Course offered by the School	Medium of Instructions and Exam	Maximum students allowed	Students from following selected Schools can choose this Elective Course in Sem-I or Sem-II										
	Code	Title of the course					MS	COS	PS	LS	CS	EES	MGS	SS	SL	AH	ED
1	MS-001	Statistical Methods and Mathematical Reasoning	4	MS	English	50		✓	✓	✓	✓	✓					
2	COS-001	Modern Computer Applications and Operations	4	COS	English	60	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
3	PS-001	Industrial Materials	4	PS	English	50	✓	✓		✓	✓	✓					
4	LS-001	Fundamentals of Life Sciences	4	LS	English	50	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
5	CS-001	Fundamentals of Chemical Sciences	4	CS	English	50	✓	✓	✓	✓		✓					
6	EES-001	Fundamentals of Environmental and Earth Sciences	4	EES	English	50	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
7	MGS-001	Fundamentals of Management	4	MGS	English	60	✓	✓	✓	✓	✓	✓		✓	✓	✓	
8	SS-001	Introduction to Social Sciences	4	SS	English/ Marathi	60	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
9	SL-001	Language and Communication Skills	4	SL	English+ Marathi+Hindi	60	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
10	AH-001	Introduction to Mass Communication and Indian Music	4	AH	English/ Marathi	50	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
11	ED-001	Education in Multicultural Society	4	ED	English/ Marathi	50								✓	✓	✓	

Abbreviations for Schools:

MS: School of Mathematical Sciences	CS: School of Chemical Sciences	SL: School of Languages Studies and Research Centre
COS: School of Computer Sciences	EES: School of Environmental and Earth Sciences	AH: School of Arts and Humanities
PS: School of Physical Sciences	MGS: School of Management Studies	ED: School of Education
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**School of Mathematical Sciences
North Maharashtra University, Jalgaon**

**Syllabus of the course offered under Choice Based Credit System (CBCS) for first
year PG students from other Schools of North Maharashtra University**

(with effect from academic year 2015-16)

Medium of Instructions and Examination: English.

Number of Credits: 04.

Total number of Teaching Hours: 50 Hours Theory Lectures.

Examination: Internal Assessment: 40 Marks **Term End External Exam:** 60 Marks

Result Declaration: Grade points of this course earned by the student will be considered in CGPA calculation.

This course is offered for first year PG students from following tick marked Schools of NMU Campus in Semester-I as well as Semester-II			
MS: School of Mathematical Sciences		MGS: School of Management Studies	
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LS: School of Life Sciences	✓	AH: School of Arts and Humanities	
CS: School of Chemical Sciences	✓	ED: School of Education	
EES: School of Environmental and Earth Sciences	✓	TH: School of Thoughts	

Syllabus

MS-001: Statistical Methods and Mathematical Reasoning

UNIT I: Descriptive Statistics and Presentation of Data (10 Hrs)

- Types of Data: qualitative and quantitative data; nominal and ordinal data; discrete and continuous data; frequency and non-frequency data, Different types of scale - nominal, ordinal, ratio and interval.
- Analysis of univariate Quantitative Data: Concepts of central tendency or location, dispersion, skewness and kurtosis, measures of dispersion: range, quartile deviation, variance, standard deviation.
- Analysis of bivariate Data: measures of association, correlation
- Presentation of Data: construction of tables with one or more factors of classification, diagrammatic and graphical representation of non-frequency data, frequency distributions, histogram
- Graphical presentation of data through bar graph, line graph, pie chart, histogram, dot plot, box-plot, multiple line/bar graphs etc.

UNIT II: Correlation and regression (10 Hrs)

- Bivariate data: scatter diagram, coefficient of determination, rank correlation: Spearman's rank correlation coefficient
- Meaning and concept of regression, fitting of simple linear regression and quadratic regression in single predictor variable
- Multivariate data: multiple regression, coefficient of determination, R-square and its interpretation, testing significance of predictor variables.

UNIT III: Testing of hypothesis and basic statistical designs (10 Hrs)

- Introduction of methods of sampling.
- Statistical hypothesis, problem of testing of hypothesis, simple and composite hypothesis, types of errors, p-value, conclusions in hypothesis testing
- Statistical tests: one sample t-test, paired t-test, test for proportions, chi-square test for testing independence/association of attributes
- Design of experiments: introduction to basic terms of design of experiments, standard designs: Completely Randomized Design (CRD), Randomized Block Design (RBD), concept of ANOVA, F-test in ANOVA, interpretation of results from ANOVA.

UNIT IV: Mathematics of Interest Rates (10 Hrs)

- Introduction, the accumulation and amount functions.
- Simple interest, Compound interest, the effective rate of interest, the effective rate of discount, concept of Present Value(PV)
- Nominal rates of interest and discount, forces of interest and discount, varying interest.
- Equation of value, unknown time, unknown rate of interest, determining time periods.
- Annuity-immediate, Annuity-due, Perpetuities.
- Loan repayments.

UNIT V: Mathematical Reasoning (10 Hrs)

- **Problems based on:** Ratio and Proportion, Time and work, Time and Distance, Trains, Area, Volume and Surface Areas, Calendar and Clocks.

Books for references:

1. Fundamentals of Mathematical Statistics by S.C. Gupta and V.K.Kapoor
2. Applied General Statistics by Croxton F.E., Cowden D.J and Klein S.
3. Design and Analysis of Experiments by Montgomery D.C. (2001), John Wiley.
4. Introduction to Linear Regression Analysis by Montgomery D.C, Peck, E.A. and Vining G.G (2003). (3rd Ed. Wiley)
5. Statistics for Non-statistician by Birger Madsen (Springer)
6. Kellison Stephen G., The Theory of Interest, 3rd Edition. McGraw-Hill International Edition (2009).
7. Quantitative-Aptitude by R.S. Aggarwal, S. Chand Publication (Chapter numbers: 12, 15, 17, 18, 24, 25, 27, 28)

**School of Computer Sciences
North Maharashtra University, Jalgaon**

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LS: School of Life Sciences	✓	AH: School of Arts and Humanities	✓
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Syllabus

COS-001: Modern Computer Applications & Operations

Unit 1: Elements of Information Technology (05 Hrs)

- 1.1 Information Types: Text, Audio, Video, and Image, storage formats
- 1.2 Components: Operating System, Hardware and Software, firmware
- 1.3 Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector, smart boards
- 1.4 Processor & Memory: Processor functions, speed, Memory types: RAM/ROM/HDD/DVD-ROM/Flash drives, memory measurement metrics

Unit 2: Office Automation-Text Processing (10 Hrs)

- 2.1 Views: Normal View, Web Layout View, Print Layout View, Outline View, Reading Layout View
- 2.2 Working with Files: Create New Documents, Open Existing Documents, Save Documents to different formats, Rename Documents, Close Documents
- 2.3 Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text, Spelling and Grammar, paragraphs, indentation, margins
- 2.4 Lists: Bulleted and Numbered Lists,
- 2.5 Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Move and Resize Tables, Moving the order of the column and/or rows inside a table, Table Properties
- 2.6 Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents,

2.7 Paragraph Formatting, Paragraph Attributes, Non-printing characters

Unit 3: Office Automation-Worksheet Data Processing (10 Hrs)

- 3.1 Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets, Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells
- 3.2 Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, AutoSum,
- 3.3 Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells
- 3.4 Charting: Chart Types, drawing charts, Ranges, formatting charts

Unit 4: Office Automation- Presentation Techniques and slide shows (12 Hrs)

- 4.1 Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation, Open an Existing Presentation, PowerPoint screen, Screen Layout
- 4.2 Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template, Reorder Slides, Hide Slides, Hide Slide text, Add content, Resize a placeholder or text box, Move a placeholder or text box, Delete a placeholder or text box, Placeholder or Text box properties, Bulleted and numbered lists, Adding notes
- 4.3 Work with text: Add text and edit options, Format text, Copy text formatting, Replace fonts, Line spacing, Change case, Spelling check, Spelling options
- 4.4 Working with tables: Adding a table, Entering text, Deleting a table, Changing row width, Adding a row/column, Deleting a row/column, Combining cells, Splitting a cell, Adding color to cells, To align text vertically in cells, To change table borders, Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slide animation/transitions.

Unit 5: Internet Basics: (08 Hrs)

- 5.1 Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing the Internet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers, Uniform resource locator
- 5.2 Internet Resources: Email, Parts of email, Email address, Newsgroups/Forums, Chat rooms, Conferencing
- 5.3 Protecting the computer: Password protection, Viruses, Virus protection software, Updating the software, Scanning files, Net banking precautions

Unit 6: Modern Internet Applications (05 Hrs)

- 6.1 Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services
- 6.2 Online Resources: Wikipedia, Blog, Job portals, C.V. writing
- 6.3 e-learning: e-Books, e-Magazines, e-News papers, OCW(open course wares): Sakshat(NPTEL) portal, MIT courseware

References:

1. TCI, "Introduction to Computers and Application Software", Publisher: Jones & Bartlett Learning, 2010, ISBN: 1449609821, 9781449609825
2. Laura Story, Dawna Walls, "Microsoft Office 2010 Fundamentals", Publisher: Cengage Learning, 2010, ISBN: 0538472464, 9780538472463
3. June Jamrich Parsons, Dan Oja, "Computer Concepts Illustrated series", Edition 5, Publisher Course Technology, 2005, ISBN 0619273550, 9780619273552

**School of Physical Sciences
North Maharashtra University, Jalgaon**

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(with effect from academic year 2015-16)

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Number of Credits: 04.

Total number of Teaching Hours: 50 Hours Theory Lectures.

Examination: Internal Assessment: 40 Marks **Term End External Exam:** 60 Marks

Result Declaration: Grade points of this course earned by the student will be considered in CGPA calculation.

This course is offered for first year PG students from following tick marked Schools of NMU Campus in Semester-I as well as Semester-II			
MS: School of Mathematical Sciences	✓	MGS: School of Management Studies	
COS: School of Computer Sciences	✓	SS: School of Social Sciences	
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LS: School of Life Sciences	✓	AH: School of Arts and Humanities	
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Syllabus

PS-001: Industrial Materials

Unit 1: Requirement of Materials for Industry

Introduction to Industrial Materials, Classification of Materials: Metals/alloys, Ceramic, glasses and glass-ceramic, polymers(plastics), semiconductors and composites, Functional Materials: Aerospace, Biomedical, Electronic materials, Optical materials, smart materials, magnetic materials, energy technology and environmental.

Unit 2: Advanced Materials

Ceramics, Polymers, Composites, Optical materials, Super alloys, Pervoskite, Semiconducting materials.

Unit 3: Nano and Biomaterials

Fundamentals of nanostructured materials, Significance of nanostructured materials, Structural aspects, nano structures, materials for biosensors, medicine and biosciences.

Unit 4: Properties of Materials

Mechanical (Stress, strain and hardness), electrical (resistivity and mobility) optical (refractive index, transmission and band gap) and magnetic properties (susceptibility and permeability) of materials.

Unit 5: Applications

Metals and alloy.

Ceramics: Glasses, Clay product powder and tape casting.

Polymers: Plastics, elastomers, optical fibers.

Composites: reinforced, laminar and sandwich panel type.

Nano materials: CNT, Graphene, Bio-nano sensors.

Semiconductors: Integrated circuits, Solar cells.

References:

1. Materials Science and Engineering: An Introduction, William D. Callister, Wiley (2010)
2. Introduction to Materials Science for Engineers, 8/E; James F. Shackelford, Pearson (2015)
3. The Science and Engineering of Materials, 4th ed., Donald R. Askeland and Pradeep P. Phule Publisher: Cengage Learning (2010)
4. Instrumental Methods of Analysis, Willard, Merritt, Dean, Settle, CBS Publishers & Distributors (2004)
5. Principles of Instrumental Analysis, Skoog, Holler, Nieman; Publisher: Brooks Cole; 6 edition (2006)
6. Characterization of Materials, Elton N. Kauffmann, Wiley (1999)

School of Life Sciences
North Maharashtra University, Jalgaon

Syllabus of the course offered under Choice Based Credit System(CBCS) for first year PG students from other Schools of North Maharashtra University

(with effect from academic year 2015-16)

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Number of Credits: 04.

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LS: School of Life Sciences		AH: School of Arts and Humanities	✓
CS: School of Chemical Sciences	✓	ED: School of Education	✓
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Syllabus

LS-001: Fundamentals of Life Sciences

Unit – I (10 Hrs)

Introduction to microbes (virus, bacteria, rickettsia, algae, fungi). Ultrastructure of typical virus and bacterial cell, normal microflora of human body, significance of bacteria in air, water, soil, human food, concept of infection and disease. Cultivation – pure culture concept, methods of isolation (serial dilution, streak plate, spread plate, pour plate), enrichment culture techniques, bacterial growth phases, culture media, methods of sterilization.

Unit – II (10 Hrs)

Fermentation – concept, inoculum preparation, design of typical fermenter. Microbial production of : vinegar, alcohol, penicillin, amylase. Downstream processing of fermentation product.

Unit – III (10 Hrs)

Classification, structure and properties of – carbohydrates, lipids, proteins, nucleic acids.
Vitamins – properties, classification and functions.
Hormones - properties, classification and functions.

Unit - IV (10 Hrs)

Enzymes – properties, classification and functions. Michaelis Menten kinetics, enzyme inhibition. Industrial and medicinal significance and applications of enzymes.

Respiration - Introduction, ATP as currency of energy, structure of mitochondria, glycolysis, Krebs' cycle, electron transport chain.

UNIT – V (10 Hrs)

Plant tissue culture - Plant cell, cellular totipotency, tissue culture media, sterilization of media, types of culture- callus culture, cell-suspension culture, meristem culture, organ culture, protoplast culture, embryo culture. Applications of plant tissue culture - micropropagation, production of disease free plants, production of secondary metabolites, somatic hybridization.

References:

1. Elementary Microbiology (Vol. I & II) – H. A. Modi (Ekta Prakashan).
2. General Microbiology - Roger Y. Stanier, John L. Ingram, Mark L. Wheels and Page R. Painter (Macmillan Press Ltd.).
3. Lehninger Principles of Biochemistry - David L. Nelson and Michael M. Cox. (W. H. Freeman).
4. Fundamentals of Biochemistry – A. C. Deb (New Central Book Agency).
5. Plant Tissue Culture – K. K. De (New Central Book Agency).
6. Plant Physiology – R. M. Devlin and F. H. Wittham (W. Grant Press).

**School of Chemical Sciences,
North Maharashtra University, Jalgaon**
**Syllabus of the course offered under Choice Based Credit System(CBCS) for first year PG
students from other Schools of North Maharashtra University**
(With effect from academic year 2015-16)

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Number of Credits: 04.

Total number of Teaching Hours: 50 Hours Theory Lectures.

Examination : Internal Assessment: 40 Marks

Term End External Exam: 60 Marks

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Syllabus

CS-001: Fundamentals of Chemical Sciences

Unit-I: General Chemistry [10 hrs]

- A) Atomic Structure: Discovery of atom, Rutherford atomic model, Bohr's theory and its limitation
- B) Organic reaction Mechanism: Types of organic reactions, Reactive intermediates.
- C) Coordination Chemistry: Ligand, Metal complexes/ Chelates, Metal complexes in biological system- Haemoglobin, Myoglobin, Chlorophyll.
- D) Statistical analysis: Accuracy, Precision, Error, Average, mean, deviation, standard deviation, Q-test, t-test, F-test.
- E) Instrumental Analysis: Applications of NMR, IR, UV-Visible, Mass spectroscopies, XRD, SEM, TEM.

Unit-II: Polymer Chemistry [10 hrs]

- A) Definitions of polymer, polymerization, and monomer, Types of polymerization (chain and step polymerizations), Types of polymers based on their applications – plastics, elastomers, fibers and resins.
- B) Plastics – Definition, thermoplastic and thermosets, their differences, applications of plastics. Examples of plastics – polyethylene (PE), polypropylene (PP) and poly(vinyl chloride) (PVC) [synthesis, important properties and applications as plastics].
- C) Elastomers – Definition, vulcanization of rubbers, applications of rubbers. Examples of rubber- natural rubber and styrene butadiene rubber [synthesis, important properties and applications as elastomers]
- D) Fibers – Definition, applications of fibers. Examples of fibers – polyethyleneterephthalate (PET) [synthesis, important properties and applications as fibers]

Unit-III: Pesticides And Agrochemicals [10 hrs]

- A) Pests – Concept, types of pests, categories of Pests - agricultural, stored grain, public health, structural pests etc.
- B) Pest control - Natural and Applied controls & Integrated Pest Management.
- C) Agrochemicals - Definition and classification. Classification of pesticides based on target species, mode of action and chemical nature with examples. Generations of pesticides, their effects on ecosystem, Insect growth regulators.
- D) Pesticides Formulations – Necessity, types of formulations and examples.
- E) Pesticide Toxicity - LD_{50} & LC_{50} values, Acute, chronic, oral, dermal, inhalation toxicity, pesticide hazards, mode of entry, antidotes and safety measures, categories & warning symbols.

Unit-IV: Industrial Chemistry [10 hrs]

- A) Unit Operation and Unit process: Definition and examples.
- B) Chemical Industry: Introduction, Raw materials and Sources, Products of chemical industry, necessary factors to start chemical industry.
- C) Industrial hazards: Introduction, Chemical hazards (Toxicity, flammability, Corrosivity), Operation hazards (Pressure, Temperature, Ignition, Explosion, Noise), Industrial hazardous waste management.
- D) Green Chemistry: Introduction, Principles of green chemistry with example (each one).

Unit-V: Basic Concept in Analytical Chemistry [10 hrs]

- A) Definitions of the Seven Base Units (Mass, Length, Time, Temperature, Amount of substance, Electrical current and Luminous intensity), Derived units, Conversion between units, Significant figures.
- B) Chemical concentrations i) Mole, molar mass ii) Calculations in grams and moles iii) Solutions and their concentrations: a) Molar concentration, b) Analytical molarity c) Equilibrium molarity of a particular species, d) Percent concentration, e) Parts per million/billion (ppm, ppb), f) Volume ratios for dilution procedures
- C) Preparing solutions: standard solutions, primary standards, secondary standards.
- D) Separation Techniques.
Precipitation and crystallization, Diffusion, Flootation, Ultra centrifuge.
- E) Chromatography- Chromatography, theory of chromatography, Types of chromatography hyphenated techniques GC-MS, LC-MS,

References:

- 1) Advanced Organic Chemistry, Jagdamba Singh and L. D. S. Yadav
- 2) Quantum Chemistry, R. K. Prasad, Wiley Eastern Ltd, 1992.
- 3) Physical Chemistry, G. M. Barrow, 5th Edition, 2007.
- 4) Principles of Inorganic Chemistry; Late B.R. Puri, L.R. Sharma & K.C. Kalia.
- 5) Concise Inorganic Chemistry, 5th edition J. D. Lee.
- 6) Principles of Polymerization, G. Odian, John Wiley & Sons, 2001.
- 7) Polymer Science, V. R. Gowarikar, New Age International Pvt. Ltd., New Delhi, 1997.
- 8) Principles of Polymerisation, P. Bahadur, N. V. Sastry, Narosa Pub House, New Delhi, 2002.
- 9) Unit Processes in Organic Synthesis, P. H. Groggins
- 10) Green Chemistry: Theory & Practice, P. T. Anastas & J. C. Warner
- 11) Comprehensive Industrial Chemistry, P. G. More
- 12) Organic Synthesis: Special Techniques, V. K. Ahluwalia and Renu Aggarwal
- 13) Principles and Practice of Analytical Chemistry, Fifield F.W. and Kealey D, Blackey Academic.
- 14) Analytical Chemistry, Kellner et al, Wiley VCH
- 15) Chemistry of Insecticides and Fungicides, U.S. Shree Ramulu Oxford & IBH Pub., 2nd, 1995.
- 16) Principles of Pesticide Chemistry, S. K. Handa, Ed. By Agrobios (India), 2008.

**School of Environmental and Earth Sciences
North Maharashtra University, Jalgaon**

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Syllabus

EES-001: Fundamentals of Environmental and Earth Sciences

Unit-I: Basics of Environmental and Earth Sciences (10 Hrs)

Scope, Definition and importance of environmental science, Scope, Definition and importance of earth science, Earth as ecosystem, Need for public awareness, Environmental problems in India, Human population growth, Biogeochemical factors in environmental health.

Unit-II: Environmental Pollution (10 Hrs)

Environmental pollution: Definition and types; Major air pollutants, Major water pollutants; causes, effects and control of Air, Water, Soil, Noise and Radioactive pollution.

Unit-III: Natural Resources (10 Hrs)

Introduction and significance of Physical, Chemical and Biological Resources, Natural resources and its classification. Mineral resources, environmental impacts of mineral exploration Building stones and road metals, planning of quarry, its impact and management. Sand mining its impact. Scope of mining, Marine and environmental resources Wild life resources; conservation measures, Forest resource; importance, Forest conservation, Water resources; uses of water, sources of water, Watershed management, Rain water harvesting, methods for groundwater recharge. EIA (Environmental Impact Assessment) and their importance in natural resources, case studies.

Unit-IV: Map and Maps reading (10 Hrs)

Map: Definition, History, Elements, Types, Characteristics, Scale; Map projections; Conventional sign and symbol; Map making methods; Map reading and its applications.

Unit-V: Disaster Management (10 Hrs)

Concept, nature, characteristics and types of disasters, causes and effects; Natural Disasters-Earthquakes, Volcanic eruption, Landslides, Snow avalanches, Floods, Droughts, Soil erosion, Cyclones, Tsunamis; Man Made Disasters-Fire and Explosions, Nuclear, Biological and Chemical disasters and Road accidents; Disaster Management: Prevention, Preparedness and Mitigation.

References:

1. Environmental Sciences, Daniel Botkin and Edward Keller, John Wiley and Sons, New York (1997).
2. Environmental Science, Eldon D. Enger and Bradley F. Smith, WCB Publishers, Boston (1995).
3. Environmental Chemistry- B. K. Shama, Goel Publishing House, Delhi (2007)
4. Environmental Science- S. C. Santra, New Central Book Agency, Kolkata (2008)
5. Environmental Chemistry- A. K. De, New Age International Publishers, New Delhi 7th Edition (2013)
6. Elements of Cartography (New edition): Robinson, A.H., John Willey and Sons, New York.
7. National Atlas and Thematic Maps Organization (NATMO): National Atlas of India Calcutta.
8. Field Techniques and Research Methods in Geography (1982): Glodard R. H., Dubuque.
9. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.

**School of Management Studies
North Maharashtra University, Jalgaon**

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Syllabus

MGS-001: Fundamentals of Management

Unit 1: Introduction to Management (10 Hrs)

- 1.1 Organisation and need for management
- 1.2 Management process
- 1.3 Types of Managers
- 1.4 Role and responsibilities of professional manager
- 1.5 Managerial levels and skills
- 1.6 Challenge of management
- 1.7 MARS Model of Individual Behaviour
- 1.8 Wartz Value Circumstance
- 1.9 Perception and perpetual process

Unit 2: Management of Human Resource (10 Hrs)

- 2.1 Principles, functions and practices of Human Resource Management.
- 2.2 HRM process & Human Resource Planning
- 2.3 Recruitment and selection
- 2.4 Training and Development
- 2.5 Performance appraisal and compensation

Unit 3: Production and operation management (10 Hrs)

- 3.1 Operation management-meaning, nature and scope
- 3.2 Productivity and its measures
- 3.3 Productivity and technique to improve productivity
- 3.4 Recent trends in production/operation management
- 3.5 Methods of quality control

Unit 4: An Overview of marketing (10Hrs)

- 5.1 Company orientation towards market place
- 5.2 Marketing Concepts, Marketing Environment,
- 5.3 Role of marketing in Modern Organization
- 5.4 Marketing functions and product, pricing, distribution and promotion decisions
- 5.5 Consumer buying behaviour, models of consumer behaviour

Unit 5: Finance function in an organisation (10Hrs)

- 5.1 Introduction to Financial Management, Management Accounting
- 5.2 Functions of Financial Management
- 5.3 Profit Maximisation, Wealth Maximisation
- 5.4 Role of Finance Manager

Reference:

1. Management – Stoner, Freeman, Gilbert- Prentice hall India.
2. Organizational behavior, concepts controversies applications -Stephen P. Robbins-
3. Marketing Management, A South Asian Perspective-Philip Kotler, Kevin Lane Keller, Abraham Koshy, MithileshwarJha-Pearson Eduaction
4. Business Organisation and management-NeeruVasishth, Namita Rajput-KitabMahal
5. Principles of Management-T Ramasamy-Himalaya Publishing House
6. Principles of management-Omvir Chaudhary, Prakash Singh-New Age International Pub.
7. Financial Management by M. Y. Khan

Additional Readings in Management

1. Management-Task, responsibilities and practices by Peter Druker
2. The Practice of Management by Peter Druker

School of Social Sciences
North Maharashtra University, Jalgaon

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Number of Credits: 04.

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Examination: Internal Assessment: 40 Marks Term End External Exam: 60 Marks

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EES: School of Environmental and Earth Sciences	✓	TH: School of Thoughts	

Syllabus

SS: 001 Introduction to Social Sciences

Unit One: Introduction to Philosophy (Indian & Western) (10 Hrs)

- 1.1 Definitions of philosophy, The origin of Philosophy in Indian and in the western world.
- 1.2 Nature and scope of philosophy: Metaphysics, Epistemology, Ethics and Logic.
- 1.3 Definitions of Logic.
- 1.4 Statements and propositions, Arguments and Argument forms. Valid arguments
- 1.5 Propositional variables and Logical constants: Negation, Conjunction Disjunction, Implication and Equivalence: Basic Truth Table of Logical connectives.

Unit Two: Introduction to Political Science & Economics (10 Hrs)

A. Introduction to Political Science and Public Administration

- 2.1 Meaning, Recent Approaches in Political Science
- 2.2 Public Administration: Meaning, Significance of Public Administration.
- 2.3 Indian Administration: Historical Background and Evolution
- 2.4 Principles of Organization: Hierarchy, Span of Control, Unity of Command, Integration, Centralization versus Decentralization.

B. Introduction to Economics

- 2.1 Definitions, Nature, Scope of Economics
- 2.2 Micro and Macro Economics
- 2.3 Concept of Demand and supply: Law of Demand

Unit Three: Introduction to Dr. Ambedkar Thought & History (10 Hrs)

A. Introduction to Dr. Ambedkarism

- 3.1 Nature, Scope & objectives, Dimensions of Ambedkarism
- 3.2 Humanism: Human being is the center point
- 3.3 Secularism: Equality, Liberty, Fraternity and Social Justice
- 3.4 Socialism and State Socialism

B. Introduction to History

- 3.1 Meaning, Nature and Scope of History
- 3.2 Historicism

3.3 Auxiliary Disciplines of History

Unit Four: Introduction to Women's Studies and Psychology (10 Hrs)

A. Introduction to Women's Studies

- 4.1 Definition of Women's Studies Genesis and Growth of Women's Studies Nature and scope of Women's Studies
- 4.2 Gender and Sex
- 4.3 History of Women's Movement in India
- 4.4 Types of Feminism in brief

B. Introduction to Psychology

- 4.1 Concept of Psychology: Definitions, meaning and Nature
- 4.2 Historical background of psychology: Structuralism to constructivism
- 4.3 Branches of psychology: Educational, Clinical, Industrial, Social, Developmental Health, Counselling, Positive Psychology Abnormal Psychology.
- 4.4 Stages of Development: Childhood to Adulthood: concepts and characteristics.

Unit Five: Introduction to Sociology and Social Work (10 Hrs)

A. Introduction to Sociology:

- 5.1 Importance of Sociology in modern society
- 5.2 Concept of Social Inclusion and Importance of Social inclusion
- 5.3 Tribal Community: Socio-cultural profile: ethnic and cultural diversity;
- 5.4 Women empowerment in global era

B. Social work Profession and its Intervention

- 5.1 Working with Women and children, Youth, aged, Dalit and tribal, NT-DNT Community, Health, education.
- 5.2 Urban and Rural Community Development.
- 5.3 Working with Socially, Physically, and Mentally Challenged Group and Correctional Setting.
- 5.4 Other Contemporary Issues.

References:-

- 1) Philosophy
 - An Introduction to Philosophical Analysis by John Hospers, Routledge & Kegan Paul, Greet Britain 1956
 - Introduction to Logic by Irving Copy
- 2) Political Science
 - Goel S.L., 2003, Public Administration, Theory and Practice, New Delhi, Deep & Deep Publishers.
 - भोळे भा. ल., भारतीय गणराज्याचे शासन आणि राजकारण, पिपळापुणे प्रकाशन, नागपूर
- 3) Economics
 - Misra S.K. and Puri V.K., Indian Economy , Himalaya Publishing House
 - रायखेलकर व खेडकर, भारतीय अर्थव्यवस्था, कैलास पब्लिकेशन्स, औरंगाबाद
- 4) Dr. Ambedkar Thought
 - M. K. Dongre, Dimensions of Ambedkarism, Vinay Prakashan, Nagpur, Sept. 2005
 - Essensial Dr. Babasaheb Ambedkar, Dr. Babasaheb Ambedkar officers Social Forum, 14 Oct. 1997
 - Zelliott Eleanor, Dr. Ambedkar's Movement in India
- 5) History
 - Beverly Southgate, History : What and Why, Rout ledge
 - सरदेसाई बी एन व इतर, इतिहास लेखनशास्त्र, फडके प्रकाशन, कोल्हापूर
- 6) Women Studies
 - डॉ. धोंगडे अश्विनी, स्त्रीवादी समीक्षा स्वरूप आणि उपाययोजना, दिलीपराज प्रकाशन प्रा .लि .पुणे, तृतीय आवृत्ति २००९ .
 - Edited by Maitrayee Chaudhuri, Feminism in India, (Women Unlimited) New Delhi 2004.
- 7) Psychology
 - Dash M., Fundamental and educational psychology, Ahanthi Publication.
- 8) Sociology
 - Thorat Sukhadeo (2009), 'Dalit in India' search for common destiny, Sage Publication, New Delhi
 - Rawat H. K., (2010), "*Sociology – Basic Concept*", Jaipur, Rawat Publication
 - आगलावे प्रदीप, "समाजशास्त्र" नागपूर, साईनाथ प्रकाशन.
- 9) Social Work
 - Desai M- History of Ideologies for Social Change and Social Work education Practice cell Tata Institute of Social Work, Mumbai.
 - UGC 1980, 1990 - Review of Social Work education in India.
 - Woodrofe.K.1962 -from charity to Social Work, London, Routledgeand Kegan Paul

**School of Languages Studies and Research Centre
North Maharashtra University, Jalgaon**
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Medium of Instructions and Examination: English+Marathi+Hindi

Number of Credits: 04.

Total number of Teaching Hours: 50 Hours Theory Lectures.

Examination: Internal Assessment: 40 Marks **Term End External Exam:** 60 Marks

Result Declaration: Grade points of this course earned by the student will be
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Syllabus

SL-001: Language and Communication Skills

Unit 1: Communication Skills (10 Hrs)

- 1.1 Forms of Communication-verbal, nonverbal, written communication
- 1.2 Barriers to Communication
- 1.3 Principles of Effective Communication
- 1.4 Conversational Skills in Situations
- 1.5 Public Speaking
- 1.6 Interview Techniques

Unit 2: Written Communication (10 Hrs)

- 2.1 Writing resumes, applications, sales letters, e-mail messages
- 2.2 Writing Proposals, reports, agendas, minutes of meetings
- 2.3 Writing for the Media- newspaper, reports, new scripts
- 2.4 Technical Writing - writing instructions, writing for the web; preparing power point presentations.

Unit 3: Enhancing English Skills (10 Hrs)

- 3.1 Phonological and syntactical structures of present day English
- 3.2 Stress, accent, intonation patterns
- 3.3 Common grammatical errors
- 3.4 Vocabulary Building

Unit 4 : संवाद कौशल्य (10Hrs)

- अ) भाषण
- ब) गटचर्चा
- क) मुलाखत
- ड) संवाद कौशल्यातील अडथळे - शुध्दलेखनाची आवश्यकता

**School of Arts and Humanities
North Maharashtra University, Jalgaon**

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Syllabus

AH-001: Introduction to Mass Communication and Indian Music

Unit I: Introduction to Mass Communication **10 hrs.**

- A) Nature and process of human communication
- B) Communication and Socialization
- C) Nature and process of Mass Communication
- D) Media of Mass Communication

Unit II: Editing in E-journalism **10 hrs.**

- A) Age of Cyber Journalism and Mass Media
- B) The role of editor in web page design
- C) Webmaster and web designer
- D) Advertising on web page
- E) Headlines and photography techniques

Unit III: Current trends in E-Journalism **10 hrs.**

- A) E-journalism on international, national and regional level

B) Problems of editing E-news papers on local level with special reference to E-news papers in Maharashtra and Marathwada region

Unit IV: Introduction to Indian Music

10 hrs.

- A) Origin and development of Indian music
- B) Contribution of pandit V. N. Bhatkhande and V. D. Paluskar in Indian music
- C) Trends in music in the post independent era
 - i) Music, ii) Swar, iii) Saptak, iv) Vadi, v) Sanvadi, vi) Aavartan, vii) Abhirbhav, viii) Tirobhav, ix) Khyal, x) Drupad, xi) Dhamar
- D) Useful instruments in Indian music
 - i) Tabla, ii) Flute, iii) Harmonium, iv) Satar, v) Tanpura
- E) Voice culture

Unit V: Indian Music and Culture

10 hrs.

- A) Introduction to Indian Music
- B) Origin and development of Indian music
- C) Contribution of pandit V.N. Bhatkhande and V.D. Paluskar in Indian music
- D) Voice culture - dhvani

References: Journalism

1. ई-जर्नालिझम, अर्जुन तिवारी, विश्वविद्यालय प्रकाशन, वाराणशी
2. इंटरनेट पत्रकारिता, सुरेश कुमार, विश्वविद्यालय प्रकाशन, वाराणशी
3. Internet Journalism In India, Om Gupta, Vishvidyalaya Prakashan, Varanasi
4. Information Technology in Journalism, Om Gupta
5. Encyclopedia of Communication

References: Music

१. संगीत विशारद, वसंत, संगीत कार्यालय, हायरस
२. भारतीय संगीत एवं मनोविज्ञान, डॉ. जोगींदरसिंह (बावरा), अेव्हीएस, पब्लीकेशन जालधर
३. भातखडे स्मृतीग्रंथ, इदीरा कला संगीत विश्वविद्यालय, खैरागढ (म.प्र.) १९६६.
४. संगीत परिचय (भाग-१, २, ३, ४), हरिश्चंद्र श्रिवास्तव हायरस
५. हमारे प्रीय संगीतज्ञ - हायरस
६. संगीतशास्त्र परिचय, मोहन माडीकर, नागपूर

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Syllabus

ED-001: Education in Multicultural Society

Objectives:

- To study the Theoretical Perspectives of Education as a Discipline in 21st century.
- To develop the understanding of interrelationship between culture and Education, Philosophy and Education, Psychology and Education & Management and Education.
- To develop understanding about culture and multi cultural society.
- To create an awareness about the impact of Liberalization, Privatization Globalization on Education.

Unit I : Education in 21st Century (10 Hrs)

1. Education as a discipline/area of study.
2. Interdisciplinary nature of education:
 - i. Relationship Between Philosophy and Education
 - ii. Relationship Between Psychology and Education
 - iii. Relationship Between Sociology and Education
 - iv. Relationship Between Management and Education

Unit II: Changing Socio-cultural Context of Education (10 Hrs)

1. Concept and nature of Culture
2. Concept and nature of Multicultural Society
3. Methods of Learning and Teaching in Multicultural Society
4. Impact of Liberalization, Privatization and Globalization on Education
5. Social Networking and Education

Unit III: ICT and Education (10 Hrs)

1. Meaning of Educational Technology
2. Concept of e- Learning, e-content and e-books
3. Use of ICT for Teaching-Learning and Research
4. Characteristics of the e-Learner
5. M-Learning : Concept and Nature

Unit IV: Dimensions of Education(10 Hrs)

1. Education for National Integration and International Understanding
2. Education and Democracy
3. Education and Secularism
4. Sex Education
5. Economics of Education

Unit V: New Trends in Education (10 Hrs)

1. Peace education : Concept and Nature
2. Special Education : Concept and Nature
3. Yoga education : Concept and Nature
4. Environmental : Concept and Nature
5. New Trends in Evaluation System

References:

1. Dash, B.N. (2008) Trends & Issues in Indian Education. New Delhi: Dominant Publishers and Distributors.
2. Dr. S.S. Mathur : A sociological Approach to Indian Education. Vinod Pustak Mandir Dr.Rangeya Raghav Marg, Agra -2 (1980)
3. Srinibas Bhattacharya - Foundations of Education – Atlantic Publishers
4. Bruner, J.S. (1996), The Culture of education. Cambridge, M.A.: Harward University Press.
5. Banrs, J.A. (1996), Cultural diversity and education: Foundations curriculum and teaching (4thed.) Boston: Alynand, Becon.
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7. Tilak (2010) Education, Society and Development: National and International Perspectives. New Delhi: APH Publishing Corporation.
