



Mahatma Education Society's
Pillai HOC College of Arts, Science and Commerce
Pillai HOCL Educational Campus, Rasayani
NAAC Accredited with A+ Grade in Cycle 2
(ISO 9001: 2015 Certified)



1.3.1.QIM.

Crosscutting Issues

(A.Y. 2023-24)



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Principal

Mahatma Education Society's
Pillai's HOC College of Arts,
Science and Commerce
HOC Educational Campus,
Rasayani, Tal. Khalapur,
Dist. Raigad, PIN-410 207.

AC. 6.6.2012
Item No.4.49

UNIVERSITY OF MUMBAI



Revised Syllabus for the F.Y.B.A/F.Y.B.Sc.

Program: F.Y.B.A/F.Y.B.Sc.

Course: Foundation Course

(Semester I & II)

(As per Credit Based Semester and Grading System
with effect from the academic year 2012–2013)

Revised Syllabus (From 2012-13)
Foundation Course for F. Y. B A
Semester 1
Course Code: UA FC 1C1

Lectures 45
Marks 100

Unit 1

Overview of Indian Society:

Understand the multi-cultural diversity of Indian society through its demographic composition: population distribution according to religion, caste, and gender;
Appreciate the concept of linguistic diversity in relation to the Indian situation;
Understand regional variations according to rural, urban and tribal characteristics;
Understanding the concept of diversity as difference. *(5 lectures)*

Unit 2

Concept of Disparity- 1:

Understand the concept of disparity as arising out of stratification and inequality;
Explore the disparities arising out of gender with special reference to violence against women, female foeticide (declining sex ratio), and portrayal of women in media;
Appreciate the inequalities faced by people with disabilities and understand the issues of people with physical and mental disabilities. *(10 lectures)*

Unit 3

Concept of Disparity-2:

Examine inequalities manifested due to the caste system and inter-group conflicts arising thereof;
Understand inter-group conflicts arising out of communalism;
Examine the causes and effects of conflicts arising out of regionalism and linguistic differences. *(10 lectures)*

Unit 4

The Indian Constitution:

Philosophy of the Constitution as set out in the Preamble;
The structure of the Constitution-the Preamble, Main Body and Schedules;
Fundamental Duties of the Indian Citizen; tolerance, peace and communal harmony as crucial values in strengthening the social fabric of Indian society;
Basic features of the Constitution. *(10 lectures)*

Unit 5

Significant Aspects of Political Processes:

The party system in Indian politics;
Local self-government in urban and rural areas; the 73rd and 74th Amendments and their implications for inclusive politics;
Role and significance of women in politics. *(10 lectures)*

Unit 6

Growing Social Problems in India:

- a) Substance abuse- impact on youth & challenges for the future
- b) HIV/AIDS- awareness, prevention, treatment and services
- c) Problems of the elderly- causes, implications and response
- d) Issue of child labour- magnitude, causes, effects and response
- e) Child abuse- effects and ways to prevent
- f) Trafficking of women- causes, effects and response

(15 lectures)

Note:

15 lectures will be allotted for project guidance

Unit Number 6 will not be assessed for the Semester End Exam

Revised Syllabus (From 2012-13)
Foundation Course for F. Y. B.A
Semester II
Course Code: UA FC 2C1

Lectures 45
Marks 100

Unit 1

Globalisation and Indian Society:

Understanding the concepts of liberalization, privatization and globalization;
Growth of information technology and communication and its impact manifested in everyday life;
Impact of globalization on industry: changes in employment and increasing migration;
Changes in agrarian sector due to globalization; rise in corporate farming and increase in farmers' suicides. (7 lectures)

Unit 2

Human Rights

Concept of Human Rights; origin and evolution of the concept;
The Universal Declaration of Human Rights;
Human Rights constituents with special reference to Fundamental Rights stated in the Constitution; (10lectures)

Unit 3

Ecology

Importance of Environment Studies in the current developmental context;
Understanding concepts of Environment, Ecology and their interconnectedness;
Environment as natural capital and connection to quality of human life;
Environmental Degradation- causes and impact on human life;
Sustainable development- concept and components; poverty and environment (10 lectures)

Unit 4

Understanding Stress and Conflict:

Causes of stress and conflict in individuals and society;
Agents of socialization and the role played by them in developing the individual;
Significance of values, ethics and prejudices in developing the individual;
Stereotyping and prejudice as significant factors in causing conflicts in society.
Aggression and violence as the public expression of conflict; (10 lectures)

Unit 5

Managing Stress and Conflict in Contemporary Society:

Types of conflicts and use of coping mechanisms for managing individual stress;

Maslow's theory of self-actualisation;

Different methods of responding to conflicts in society;

Conflict-resolution and efforts towards building peace and harmony in society.

(8 lectures)

Unit 6

Contemporary Societal Challenges:

a) Increasing urbanization, problems of housing, health and sanitation;

b) Changing lifestyles and impact on culture in a globalised world.

c) Farmers' suicides and agrarian distress.

d) Debate regarding Genetically Modified Crops.

e) Development projects and Human Rights violations.

f) Increasing crime/suicides among youth.

(15 lectures)

Note:

15 lectures will be allotted for project guidance

Unit Number 6 will not be assessed for the Semester End Exam

Internal Assessment and Question Paper Pattern for FC- Semester I & II Course At the F Y B A Examinations

The student will be assessed on the basis of Internal Assessment of 40 marks and a Semester End Exam of 60 marks. The student will have to secure a minimum of 40% marks in aggregate and a minimum of 40% in each component of assessment i.e. 16 out of 40 in Internal Assessment and 24 out of 60 in Semester End Exam.

Internal Assessment:

~ There will be one mid-semester test of 10 marks on Units 1 and 2.

~ The test will, as far as possible, comprise of objective questions and/or short notes.

~ The student will have to submit an assignment/project for 20 marks before appearing for the Semester End Exam. This assignment/project will be entirely based on Unit 6 and can take the form of street-plays/exhibition/power-point presentations or similar other modes suitable to the topic selected; students can work in groups of not more than 8 for the purpose of this assignment. Students will have to submit a hard copy of the assignment before appearing for the Semester End Exam. The assignment will be assessed for 20 marks of which 10 marks may be allotted for a viva, to assess the level of engagement of the student with the topic assigned.

~ Unit 6 will not be included in the Semester End Exam.

~ 10 marks will be assigned to the participation of the student in class discussions and the projects undertaken along with the leadership skills and presentation skills exhibited during the class sessions.

Semester End Exam:

- ~ There will be a Semester End Exam for 60 marks of 2 hours duration.
- ~ This exam will comprise of four compulsory questions covering Units 1-5 of the syllabus.
- ~ Question No. 1, 2 and 3 will be Full-length questions for 15 marks each; there will be an internal choice in each of these questions requiring the students to answer one of two questions asked.
- ~ Full-length questions will be from Units 2, 3, 4 and 5 only.
- ~ Question No. 4 will be of the Short Note type where each Short Note will be for 3 marks each. Students will be required to answer 5 out of 8 Short Notes.
- ~ Short note questions will be from Units 1, 2, 3, 4 and 5.
- ~ Unit 1 will not feature in the Full-length questions but will be asked only in the form of Short Note questions.

NOTE: All other rules regarding Standard of Passing, ATKT, etc., will be as per those decided by the Faculty of Arts passed by the Academic Council from time to time.

Lyric: Robert Frost

: “Stopping by Woods on a Snowy Evening”

Unit 3: Play:

William Shakespeare: *Twelfth Night* OR Robert Bolt : *A Man for All Seasons* 15 Lectures

| | | | |
|--------------------|--|------------------|------------------|
| Evaluation: | Second Semester End Examination Pattern | 100 Marks | : 3 Hours |
|--------------------|--|------------------|------------------|

- Question 1: Short Notes on Unit 1
(3 short notes on Section A and 3 Short notes on Section B) (4 out of 6) : 20 Marks
- Question 2 Essay on Unit 2 (1 out of 2) : 20 Marks
- Question 3: Essay on Unit 3 (1 out of 2) : 20 Marks
- Question 4: Short Notes on Unit 2 (2 out of 4) : 20 Marks
- Question 5: Short Notes on Unit 3 (2 out of 4) : 20 Marks

References :

- Abrams, M.H. *Glossary of Literary Terms*. India, Macmillan Publishers, 2000.
- Albert, E. *History of English Literature*, India, Oxford University Press, 2009.
- Athenian Society. *Drama, Its History*, England, Nabu Press, 2012.
- Auger , Peter. *The Anthem Glossary of Literary Terms and Theory* , India, Anthem Press, , 2011.
- Brooks, Cleanth and Warren, Robert Penn. *Understanding Fiction*, Printice Hall.
- Bennett, Andrew and Nicholas Royle. *Introduction to Literature Criticism and Theory*. Great Britain: Pearson Education Limited, 2004.
- Cavanagh, Dermot Alan Gillis, Michelle Keown, James Loxley and Randall Stevenson (Ed). *The Edinburgh Introduction to Studying Literature*. Edinburgh: Edinburgh University Press, 2010.
- Chakrabarti, Piyas. *Anthem Dictionary of Literary Terms and Theory*. Delhi: Anthem Press, 2006.
- Edmond Gore and Alexander Holmes. *What is Poetry?* England, Nabu Press, 2010.
- Ford, Boris. *The Pelican Guide to English Literature*, Volume I to X
- Forster , E M. *Aspects of the Novel*,(1954) London: Rosetta Books, 2002.

Fowler, Roger. (Ed.). *A Dictionary of Modern Critical Terms*. (Rev.Ed.) London: Routledge & Kegan Paul, 1987.

Gibson Arthur. *What is Literature*, Peter Lang Pub Inc, 2007.

Hudson, W.H., 2011, *An Outline History of English Literature*, India, G K Publishers Pvt. Ltd

McKeon, Michael. *Theory of the Novel: A Historical Approach*. Baltimore : John Hopkins University Press, 2000.

Prasad, B. . *Background of the Study of English Literature*, Chennai, Macmillan, 1999.

Rees, R.J. *English Literature : An Introduction to Foreign Readers*, New Delhi: Macmillan, 1982.

Turco , Lewis. *The Book of Literary Terms*, UK, University Press of New England, 1999.

Widdowson, Peter. *The Palgrave Guide to English Literature and its Contexts 1500-2000*, Hampshire: Palgrave, Macmillan, 2004

Syllabus Sub-Committee:

1. Dr. Deepa Mishra : Convener , CHM College, Ulhasnagar
2. Dr. Marie Fernandes : Member, St. Andrew's College, Bandra
3. Dr. Pearl Pastakia : Member, St. Xavier's College, Mumbai
4. Dr. Ambreen Kharbe : Member, G.M. Momin Women's College, Bhiwandi
5. Mr. Mahesh M. Deshmukh : Member, Sonopant Dandekar College, Palghar

UNIVERSITY OF MUMBAI
No. UG/170 of 2016-17

CIRCULAR:-

A reference is invited to the Syllabi relating to the B. A. degree course vide this office Circular No.UG/237 of 2005 dated 22nd June, 2005 and the Principals of affiliated Colleges in Arts are hereby informed that the recommendation made by Board of Studies in English Literature at its meeting held on 29th June, 2016 has been accepted by the Academic Council at its meeting held on 14th July, 2016 vide item No. 4.54 and that in accordance therewith, the revised syllabus as per the Choice Based Credit System for the F.Y.B.A Communication Skills of English (Sem. I & II), which is available on the University's web site (www.mu.ac.in) and that the same has been brought into force with effect from the academic year 2016-17.

MUMBAI – 400 032
19 November, 2016
To,


(Dr.M.A.Khan)
REGISTRAR

The Principals of affiliated Colleges in Arts.

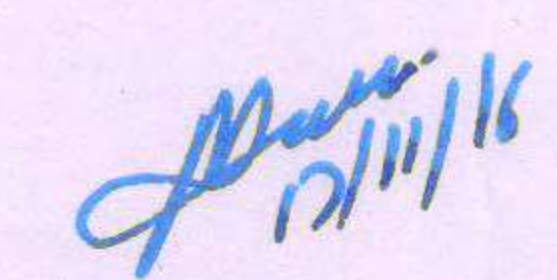
A.C/4.54/14/07/2016

No. UG/170 -A of 2016-17

MUMBAI-400 032 19 November, 2016

Copy forwarded with compliments for information to:-

- 1) The Co-ordinator, Faculty of Arts,
- 2) The Chairperson, Board of Studies in English Literature,
- 3) The Director, Board of College and University Development,
- 4) The Controller of Examinations,
- 5) The Professor-cum-Director, Institute of Distance and Opening Learning,
- 6) The Co-Ordinator, University Computerization Centre.


(Dr.M.A.Khan)
REGISTRAR

PTO...

S.Y.B.A. English (Ancillary)
Course Title: Indian Literature in English
Paper II
(100 Marks Examination Pattern)

Objectives:

1. To introduce learners to the uniqueness of Indian Literature in English
2. To acquaint learners to the pluralistic dimensions of Indian Literature in English
3. To help them understand the different genres of Indian Literature in English
4. To familiarise learners with different perspectives of approaching this literature
5. To make learners aware of prominent Indian Writers in English

| | | |
|--|-----------------|------------------|
| Semester III | Paper II | 3 Credits |
| Course Title: Indian Literature in English – (Essay, Novel and Short Stories) | | |

Total Lectures: 45

Unit 1: Essays (Indian Non-Fiction in English)

15 Lectures

- i. Meenakshi Mukherjee: “The Anxiety of Indianness” from *The Perishable Empire: Essays on Indian Writing in English*.
- ii. Urvashi Butalia: “Memory” from *The Other Side of Silence: Voices from the Partition of India*
- iii. K. Satchidanandan: “That Third Space: Interrogating the Diasporic Paradigm” from *Indian Literature*, Vol 45, No.3 (203) (May-June 2001)
- iv. Jasbir Jain: “Prologue” from *beyond postcolonialism: dreams and realities of a nation*.

Unit 2: Novel

15 Lectures

- i. Anita Desai: *Fasting, Feasting*. Penguin Random House.

OR

- ii. Saradindu Bandyopadhyay: *The Quills of the Porcupine*- a novella from *The Menagerie and Other Byomkesh Bakshi Mysteries*. Translated from the Bengali by Sreejata Guha. Penguin.

Unit 3: Short Stories:**15 Lectures**

- i. Bhisham Sahani : "Pali" (from *Translating Partition*. Katha, New Delhi, 2001)
- ii. Vilas Sarang : "A Revolt of the Gods" (from *Fair Tree of the Void*. Penguin Books (India) Ltd. New Delhi, 1990.
- iii. Githa Hariharan : "The Remains of the Feast" (from <https://newint.org>)
- iv. Shashi Deshpande : "The Awakening" (from *Collected Stories, Vol. 1*, Penguin Books India Pvt. Ltd. New Delhi, 2003.

Evaluation Pattern:

| Third Semester End Examination | Duration: 3 Hours | Marks: 100 |
|---|--------------------------|-------------------|
| Question 1: Essay on Unit 1 (a-Essay or b-Essay or c- two short notes) | (one out of three) | :20 Marks |
| Question 2: Essay on Unit 2 | (one out of two) | :20 Marks |
| Question 3: Essay on Unit 3 | (one out of two) | :20 Marks |
| Question 4: Short Notes on Unit 2 | (two out of four) | :20 Marks |
| Question 5: Short Notes on Unit 3 | (two out of four) | :20 Marks |

| | | |
|---|-----------------|------------------|
| Semester IV | Paper II | 3 Credits |
| Course Title: Indian Literature in English – (Essay, Poetry and Drama) | | |

Total Lectures: 45**Unit 1: Essays (Indian Non-Fiction in English)****15 Lectures**

- i. Makarand Paranjape: Introductory essay to *Indian Poetry in English*. 1993. Madras: Macmillan India Press.
- ii. Arjun Dangle: "Dalit Literature: Past, Present and Future" from *Poisoned Bread*. 1992. Hyderabad: Orient Longman Ltd.
- iii. Vijay Tendulkar: "Characterization and Structure: Two Essentials for a Playwright" from *Collected Plays in Translation*. 2003. New Delhi: OUP.
- iv. Rajeswari Sunder Rajan: "English Literary Studies, Women's Studies and

FOUNDATION COURSE

Semester III

Internal marks: 25

External marks: 75

Total Marks: 100

Lectures: 45

Objectives

- i. Develop a basic understanding about issues related to Human Rights of weaker sections, ecology, and science and technology.
- ii. Gain an overview of significant skills required to address competition in career choices
- iii. Appreciate the importance of developing a scientific temper towards technology and its use in everyday life

Module 1 Human Rights Provisions, Violations and Redressal (12 lectures)

- A. Scheduled Castes- Constitutional and legal rights, Forms of violations, Redressal mechanisms. **(2 Lectures)**
- B. Scheduled tribes- Constitutional and legal rights, Forms of violations, Redressal mechanisms. **(2 Lectures)**
- C. Women- Constitutional and legal rights, Forms of violations, Redressal mechanisms. **(2 Lectures)**
- D. Children- Constitutional and legal rights, Forms of violations, Redressal mechanisms. **(2 Lectures)**
- E. People with Disabilities, Minorities, and the Elderly population- Constitutional and legal rights, Forms of violations, Redressal mechanisms. **(4 Lectures)**

Module 2 Dealing With Environmental Concerns (11 lectures)

- A. Concept of Disaster and general effects of Disasters on human life- physical, psychological, economic and social effects. **(3 Lectures)**
- B. Some locally relevant case studies of environmental disasters. **(2 Lectures)**
- C. Dealing with Disasters - Factors to be considered in Prevention, Mitigation (Relief and Rehabilitation) and disaster Preparedness. **(3 Lectures)**
- D. Human Rights issues in addressing disasters- issues related to compensation, equitable and fair distribution of relief and humanitarian approach to resettlement and rehabilitation. **(3 Lectures)**

Module 3 Science and Technology I (11 lectures)

- A. **Development of Science**- the ancient cultures, the Classical era, the Middle Ages, the Renaissance, the Age of Reason and Enlightenment. **(3 Lectures)**
- B. **Nature of science**- its principles and characteristics; Science as empirical, practical, theoretical, validated knowledge. **(2 Lectures)**
- C. **Science and Superstition**- the role of science in exploding myths, blind beliefs and prejudices; Science and scientific temper- scientific temper as a fundamental duty of the Indian citizen. **(3 Lectures)**

University of Mumbai
Syllabus for T.Y.B.A. English
Semester: V & VI

Course: Core paper
Course Title: 20th Century British Literature

(Choice Based Credit System with effect from the Academic Year 2018-19)

| | | |
|-------|---|---------------------------------|
| | Syllabus as per Choice Based Credit System | |
| i) | Name of the Program : | T.Y.B.A. English |
| ii) | Course Code : | UAENG505&UAENG605 |
| iii) | Course Title : | 20th Century British Literature |
| iv) | Semester wise Course Contents: | Enclosed the copy of syllabus |
| v) | References and Additional References : | Enclosed in the Syllabus |
| vi) | Credit Structure : No. of Credits per Semester | 04 |
| vii) | No. of lectures per Unit : | 20 |
| viii) | No. of lectures per week : | 04 |
| ix) | No. of Tutorials per week : | -- |
| 2. | Scheme of Examination : | 5 Questions of 20 marks each |
| 3. | Special notes , if any : | No |
| 4. | Eligibility , if any : | No |
| 5. | Fee Structure : | As per University Structure |
| 6. | Special Ordinances / Resolutions if any : | No |

Syllabus for TYBA

Course: 20th Century British Literature

Course Codes: UAENG505 &UAENG605

Objectives of the Course:

- 1) To expose students to literary genres, trends, and literary movements of Britain in the 20th Century.
- 2) To enable students to create linkages between social and historical contexts and literary texts .
- 3) To train students to develop skills for a critical and analytical understanding of the text.

Outcome of the Course:

After completion of the course, students are expected to be able to:

- 1) Students will be equipped with comprehensive understanding of literary genres, trends and movements in 20th Century British Literature; thereby ,enabling them to understand the valuable co –relation between the socio-cultural ,economical and historical contexts; behind the literary production.
- 2) Students will acquire the discipline to become reflective and imaginative thinkers through a close, critical and analytical reading of the prescribed texts.

Syllabus for TYBA

Course: Literature of Protest

Course Codes: UAENG506D& UAENG606D

Objectives of the Course:

1. To explore voices of discord, rhetoric and cultural contexts.
2. To compare and contrast the artistic manoeuvres.
3. To examine the protest spectrum in literature.
4. To bring in panoramic understanding of global protest literature and ideologies.
5. To learn the historical links between forms of protest and meanings of literature

Outcome of the Course: After completion of the course, students are expected to be able to:

1. Read and interpret cross cultural texts.
2. Understand protest literature.
3. Get sensitized towards global issues.
4. Learn to look into past, correlate it to present and future.
5. Understand the historicity of protest literature.

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| Semester V: Literature of Protest– I |
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| Course code- UAENG506D |
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|-------------------|
| 04 Credits |
|-------------------|

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|---------------------------|
| Total Lectures: 45 |
|---------------------------|

Unit 1: Background Topics:

15 Lectures

1. Literature and Protest
2. Politics and Language of Protest
3. Translation and Literature of Protest
4. Concept of Caste, Varna Theory and Division of Labor
5. Concept of Race and Discrimination
6. Protest in African American, Dalit and Tribal Literature

Unit 2: Autobiography:**15 Lectures**

I Want to Destroy Myself: A Memoir- Mallika Amar Shaikh Translated by Jerry Pinto
Or

Dreams from My Father- Barack Obama

Unit 3: Short Story**15 Lectures**

1. Death of a Rich Man
2. When the Sun God Refused to Set
3. Loneliness of An Ex-soldier
4. Confessions of a Graveyard Keeper

(The stories are from *Desperate Men and Women: Ten Dalits Short Stories from India*, edited by Rangrao, B., Kalpaz Publications, 2013)

| |
|---|
| Semester End Examination Pattern: 80 Marks 3 Hours |
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|--|----|
| Q 1. (a) Short notes on Unit I: Concepts (Two out of Four) | 20 |
| Q 2. (a) Essay type question on Unit II(One out of Two) | 20 |
| Q 3. (a) Essay type question on Unit III (One out of Two) | 20 |
| Q 4. (a) Short notes on Unit II (One out of Two) | 10 |
| (b) Short notes on Unit III (One out of Two) | 10 |

Internal Assessment: 20 marks

A project of 20 marks/semester (1500-2000 words) to be undertaken by the students with particular focus on the protest literature in the writings such as Aboriginal literature, Dalit literature, Tribal Literature, African American literature. Students to analyse an autobiography or 5 short stories of their choice (not prescribed in the syllabus) through the lens of protest in Semester V)

Module 4: Elementary Probability Theory

Sample space and events– Mutually exclusive, exhaustive and complimentary events– Conditional probability– Binomial probability distribution– Nature and Properties of the Normal Probability Distribution; Standard Scores and the Normal Curve; The Standard Normal Curve: Finding Areas when the Score is Known, Finding Scores when the Area is Known.

References:

1. Dowling Edward T: Introduction to Mathematical Economics, Schaum Outline Series in Economics, Tata McGraw -Hill, New Delhi, 2004.
2. Dowling Edward T: Theory and Problems of Mathematical Methods for Business and Economics, McGraw –Hill, 1993.
3. Gupta S.P.: Statistical Methods, S. Chand, New Delhi, 2014.
4. Lerner Joel J and P.Zima: Theory and Problems of Business Mathematics, McGraw Hill, New York, 1986.
5. Sancheti D.C. and V.K. Kapoor: Statistics-Theory, Methods and Applications, S. Chand, New Delhi, 2014.
6. Chiang A. C.: Fundamental Methods of Mathematical Economics, 3rd edition, McGraw-Hill, 1984.

RESEARCH METHODOLOGY: PAPER X

SEMESTER V

| COURSE CODE | PAPER TITLE | CREDITS | MARKS |
|-------------|-----------------------------------|---------|-------|
| GROUP - II | ELECTIVE PAPERS | | |
| ECORMB504 | RESEARCH METHODOLOGY : PAPER X | 4 | 100 |

Preamble:

This paper is designed with the view to introduce the concepts, principles and methods of economic research based on qualitative and quantitative data. The course will enable the students to get an insight into the applications of modern analytical tools and techniques related economic decision making. The student gets an opportunity to learn how to collect and analyze primary and secondary data. Practical sessions will strengthen the knowledge related to computer applications to research analysis.

Module 1: Introduction to Concept of Research:

Nature, Scope & Purpose of social research - Basic assumptions of research - Significance and objectivity in social sciences research - Types of research: pure & applied research; formulative or exploratory research; descriptive research, historical research, experimental research, survey research - Ethical issues and major difficulties relating to research .

Module 2: Elements of Research Methodology:

Steps in Research process: Identification, selection and formulation of research problem – sources of research problem – criteria of a good research problem - Review of literature - Formulation of hypothesis - Preparing Research Design: Definition, Concepts, and types– exploratory, descriptive and diagnostic, experimental and Analytical research designs – Collection and analysis of the data - Interpretation and report writing.

Use of web search in research process- introduction to Internet and WWW - Using search engine like Google, Yahoo etc. Use of advanced search techniques.

Module 3: Sources of Data for Research:

Types of data sources: Primary and Secondary - Primary data-Meaning and Collection methods - Observational method - Interview technique - Design of Schedule and Questionnaire - Survey method and Field Visits - Case Study as a method.

Major Sources of Secondary data: Meaning, advantages, Relevance, limitations and cautions of secondary data.

Sampling Technique: Census and sample survey- Essentials of a good Sampling - Advantages and limitations of sampling, Methods of sampling: Random sampling : Simple or Unrestricted Random Sampling- Mixed or Stratified Random Sampling, Systematic or Quasi Random sampling – Multistage or Cluster Random Sampling - Sequential Random Sampling, Non random sampling : Judgement or Purposive sampling–Convenience sampling accidental sampling – Quota sampling, Selecting an appropriate sampling technique- Sampling and Non-sampling errors - Sample size.

Module 4: Processing and Analysis of Data

Classification, Tabulation and Graphical presentation of socio-economic data - An introduction to Statistical Analytical Tools – Measures of Central Tendency – Measures of Variation: absolute and relative measures – Quartile deviation, standard deviation, coefficient of variation- Skewness: meaning and Measurement (Karl Pearson’s and Bowley’s methods) - Basics of Computer Applications in Data organization & Data Processing, Introduction to spreadsheet application, features and functions, Using formulas and functions, Data storing, Features for Statistical data analysis, Graphical representation of data, Generating charts/ graph and other features.

References:

1. Goode J. William & Hatt K. Paul, Methods in social Research, New York, McGraw-Hill, 1952.
2. Kothari, C.R., Research Methodology: An Introduction, Delhi, New Age, 2004.
3. Krishnaswami, O.R & M. Ranganatham ,Methodology of Research in Social Sciences, Himalaya Publishing House, Mumbai, 2011.
4. P. Saravanavel, Research Methodology, KitabMahal, Allahabad, 1987.
5. Gupta S. P., Statistical Methods, Sultan Chand and Sons, New Delhi, 2014 .
6. Rajaram V., Fundamentals of computers, Prentice Hall of India, New Delhi, 1996.

ECONOMICS OF AGRICULTURE AND COOPERATION : PAPER XV

SEMESTER VI

| COURSE CODE | PAPER TITLE | CREDITS | MARKS |
|-------------|--|---------|-------|
| GROUP - II | ELECTIVE PAPERS | | |
| ECOECB603 | ECONOMICS OF AGRICULTURE AND COOPERATION :PAPER XV | 3 | 80 |

Preamble:

The paper is designed to provide various aspects related to the principles of cooperation and cooperative organizations in the globalized economy. The essentials of cooperative finance are dealt in with reference to the latest trends.

Module 1: Co-operation:

Meaning and features of Co-operation - Principles of Co-operation (Manchester-1995) – Role of Co-operation in Economic development - Globalization and Co-operation- Importance and Benefits of Co-operation, Use of Big data Artificial Intelligence (AI) in Indian Agriculture.

Module 2: Co-operative Finance in India:

Co-Operative Finance: Need, Structure, Progress and Problems - National Co-operative Development Corporation (N.C.D.C.), Aadhar as KYC Norm for Agricultural Finance - Farmers service societies and urban Co-operative banks.

Module 3: Agricultural Co-operatives:

Role and Types of Agro-Industries - Problems and Measures of Agro-Industries – Sugar and Dairy Co-operatives - Food and Fruits Processing Industry - Co-Operative Farming.

Module 4: Co-operative Organizations in India:

Consumer Co-operatives - Co-Operative Marketing - Housing Co-operative societies - Labour Co-operative societies - Agricultural Marketing societies-Leadership in Cooperative development.

References:

1. R. D. Bedi, Theory, History and Practice of Co-Operation, International Publishing House, Meerut(U.P.), 1983.
2. Mathur B. S, Co-Operation in India, Sahitya Bhavan, Agra, 2000.
3. John Matthai, Agricultural Co-Operation in India , Reliance Publishing House, New Delhi, 1925.
4. Krishnaswami, Fundamentals of Co-Operation, S. Chand and Company Ltd, New Delhi, 1985.
5. Hajela T.N, principles, problem and practice of Co-operation, Agarwal publication, New

Delhi, 2000.

6. Government of Maharashtra - Co-operative movement at a Glance (latest annual report).

INDUSTRIAL AND LABOUR ECONOMICS: PAPER XV
SEMESTER – VI

| COURSE CODE | PAPER TITLE | CREDITS | MARKS |
|-------------|---|---------|-------|
| GROUP - II | ELECTIVE PAPERS | | |
| ECOILEC603 | INDUSTRIAL AND LABOUR ECONOMICS :PAPER XV | 3 | 80 |

Preamble:

Issues pertaining to the labour market, wage policy, trade unions and amicable solutions to industrial disputes have become vital for developing countries, especially for India, where the bulk of the labour force is employed in the unorganised sector, and the organized sector is witnessing a phenomenon of 'jobless' growth. This paper intends to provide knowledge of the same and also discusses the importance of labour welfare and social security measures for the growing labour force in India.

Module 1 : Introduction – Indian Labour Market

Characteristics of the Indian Labour Market - Child Labour and Female Labour – Problems and Measures- Globalisation and Indian Labour Market -Labour Market Reforms – Exit Policy and Need for Safety Nets - Second National Commission on Labour.

Module 2 : Trade Unionism

Definition and Functions of Trade Unions- Historical Evolution of Trade Unions in India and Their Present Status - Problems of Trade Unions in India - Role of Outside Leadership

Module 3 : Industrial Relations

Causes of Industrial Disputes and Their Settlement Mechanism - Collective Bargaining – Concept, Features, Importance and Pre-requisites for Successful Collective Bargaining - Collective Bargaining in India - Workers’ Participation in Management –Concept, objectives and Forms of Workers’ Participation in India.

Module 4 : Labour Welfare and Social Security

Concept, Theories and Principles of Labour Welfare - Agencies for Labour Welfare - Role of the Labour Welfare Officer - Social Security – Concept; Social Assistance and Social Insurance - Social Security Measures in India - International Labour Organization

DEVELOPMENT THEORY AND EXPERIENCE: PAPER XVII

SEMESTER VI

| COURSE CODE | PAPER TITLE | CREDITS | MARKS |
|-------------|--|---------|-------|
| GROUP - II | ELECTIVE PAPERS | | |
| ECODTEC605 | DEVELOPMENT THEORY AND EXPERIENCE : PAPER XVII | 4 | 100 |

Preamble:

This is the second paper of economic development sequence. The course begins with demographic concepts and their evolution during the process of development. Then it focuses on the theory migration and discusses the link between migration and development. The structure of markets and contracts is linked to the particular problems of enforcement experienced in poor countries. The course ends with the issues related to environment and development.

Module I: Demography and Development:

Demographic concepts; birth and death rates, age structure, fertility and mortality; demographic transitions during the process of development; gender bias in preferences and outcomes and evidence on unequal treatment within households; connections between income, mortality, fertility choices and human capital accumulation.

Module II: Structural Transformation:

The Lewis model –Clark-Fisher model of structural change , Urbanization: Trends and Projections with reference to India, Urbanization and Development, Causes of urbanization, Urban informal sector, Policies for the urban informal sector, Migration and development, Economic theory of rural-urban migration: Harris-Todaro migration model

Module III: Land, Labor and Credit Markets:

Role of Agriculture in Economic Development, Market Failure and Agriculture, The distribution of land ownership; Land reform and its effects on productivity; contractual relationships between tenants and landlords; Land Acquisition; Nutrition and Labour Productivity; Rural Credit Market; Microfinance; Inter-linkages between Rural Factor Markets.

Module IV: The Environment and Development:

The core of environmental problems- Rural poverty and environmental destruction- industrialization and environmental pollution - Economic models of environmental issues: privately owned resources, common property resources, public goods: regional environmental degradation and the free rider problem, limitations of public goods

**Revised Syllabus of Courses of B.Com. (Accounting and Finance)
Programme at Semester I
with Effect from the Academic Year 2016-2017**

Skill Enhancement Courses (SEC)

5. Foundation Course -I

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|--|------------------------|
| 1 | Overview of Indian Society | 05 |
| 2 | Concept of Disparity- 1 | 10 |
| 3 | Concept of Disparity-2 | 10 |
| 4 | The Indian Constitution | 10 |
| 5 | Significant Aspects of Political Processes | 10 |
| | Total | 45 |

| Sr. No. | Modules / Units |
|---------|---|
| 1 | Overview of Indian Society |
| | Understand the multi-cultural diversity of Indian society through its demographic composition: population distribution according to religion, caste, and gender; Appreciate the concept of linguistic diversity in relation to the Indian situation; Understand regional variations according to rural, urban and tribal characteristics; Understanding the concept of diversity as difference |
| 2 | Concept of Disparity- 1 |
| | Understand the concept of disparity as arising out of stratification and inequality; Explore the disparities arising out of gender with special reference to violence against women, female foeticide (declining sex ratio), and portrayal of women in media; Appreciate the inequalities faced by people with disabilities and understand the issues of people with physical and mental disabilities |
| 3 | Concept of Disparity-2 |
| | Examine inequalities manifested due to the caste system and inter-group conflicts arising thereof; Understand inter-group conflicts arising out of communalism; Examine the causes and effects of conflicts arising out of regionalism and linguistic differences |
| 4 | The Indian Constitution |
| | Philosophy of the Constitution as set out in the Preamble; The structure of the Constitution-the Preamble, Main Body and Schedules; Fundamental Duties of the Indian Citizen; tolerance, peace and communal harmony as crucial values in strengthening the social fabric of Indian society; Basic features of the Constitution |
| 5 | Significant Aspects of Political Processes |
| | The party system in Indian politics; Local self-government in urban and rural areas; the 73rd and 74th Amendments and their implications for inclusive politics; Role and significance of women in politics |

**Revised Syllabus of Courses of B.Com. (Accounting and Finance)
Programme at Semester II
with Effect from the Academic Year 2016-2017**

Skill Enhancement Courses (SEC)

5. Foundation Course – II

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|--|------------------------|
| 1 | Globalisation and Indian Society | 07 |
| 2 | Human Rights | 10 |
| 3 | Ecology | 10 |
| 4 | Understanding Stress and Conflict | 10 |
| 5 | Managing Stress and Conflict in Contemporary Society | 08 |
| Total | | 45 |

| Sr. No | Modules /Units |
|--------|---|
| 1 | Globalisation and Indian Society |
| | Understanding the concepts of liberalization, privatization and globalization;Growth of information technology and communication and its impact manifested in everyday life; Impact of globalization on industry: changes in employment and increasing migration; Changes in agrarian sector due to globalization; rise in corporate farming and increase in farmers' suicides. |
| 2 | Human Rights |
| | Concept of Human Rights; origin and evolution of the concept; The Universal Declaration of Human Rights;Human Rights constituents with special reference to Fundamental Rights stated in the Constitution |
| 3 | Ecology |
| | Importance of Environment Studies in the current developmental context; Understanding concepts of Environment, Ecology and their interconnectedness; Environment as natural capital and connection to quality of human life; Environmental Degradation- causes and impact on human life;Sustainable development- concept and components; poverty and environment |
| 4 | Understanding Stress and Conflict |
| | Causes of stress and conflict in individuals and society; Agents of socialization and the role played by them in developing the individual; Significance of values, ethics and prejudices in developing the individual; Stereotyping and prejudice as significant factors in causing conflicts in society. Aggression and violence as the public expression of conflict |
| 5 | Managing Stress and Conflict in Contemporary Society |
| | Types of conflicts and use of coping mechanisms for managing individual stress; Maslow's theory of self-actualisation;Different methods of responding to conflicts in society; Conflict-resolution and efforts towards building peace and harmony in society |

**Revised Syllabus of Courses of B.Com. (Accounting and Finance)
Programme at Semester II
with effect from the Academic Year 2018-2019**

1. Elective Courses (EC)

3. Innovative Financial Services

Modules at a Glance

| SN | Modules | No. of Lectures |
|-----------|--|------------------------|
| 1 | Introduction to Traditional Financial Services | 15 |
| 2 | Issue Management and Securitization | 15 |
| 3 | Financial Services and its Mechanism | 15 |
| 4 | Consumer Finance and Credit Rating | 15 |
| | Total | 60 |

| SN | Modules/ Units |
|----|--|
| 1 | Introduction to Traditional Financial Services |
| | <p>a) Financial Services:</p> <ul style="list-style-type: none"> • Concept, Objectives/Functions, Characteristics, Financial Service Market, Financial Service Market Constituents, Growth of Financial Services in India, Problems in Financial Services Sector, Banking and Non-Banking Companies, Regulatory Framework <p>b) Factoring and Forfaiting:</p> <ul style="list-style-type: none"> • Introduction, Types of Factoring, Theoretical Framework, Factoring Cost, Advantages and Disadvantages of Factoring, Factoring in India, Factoring v/s Forfaiting, Working of Forfaiting, Benefits and Drawbacks of Forfaiting, Practical Problems. <p>c) Bill Discounting:</p> <ul style="list-style-type: none"> • Introduction, Framework, Bill Market Schemes, Factoring V/s Bill Discounting in Receivable Management. |
| 2 | Issue Management and Securitization |
| | <p>a) Issue Management and Intermediaries:</p> <ul style="list-style-type: none"> • Introduction, Merchant Bankers/ Lead Managers, Underwriters, Bankers to an Issue, Brokers to an Issue <p>b) Stock Broking:</p> <ul style="list-style-type: none"> • Introduction, Stock Brokers, SubBrokers, Foreign Brokers, Trading and Clearing/Self Clearing Members, Stock Trading (Cash and Normal) Derivative Trading <p>c) Securitization:</p> <ul style="list-style-type: none"> • Definition, Securitization v/s Factoring, Features of Securitization, Pass Through Certificates, Securitization Mechanism, Special Purpose Vehicle, Securitisable Assets, Benefits of Securitization, New Guidelines on Securitization |
| 3 | Financial Services and its Mechanism |
| | <p>a) Lease and Hire-Purchase:</p> <ul style="list-style-type: none"> • Meaning, Types of Lease - Finance Lease, Operating Lease, Advantages and Disadvantages of Leasing, Leasing in India, Legal Aspects of Leasing. • Definition of Hire Purchase, Hire Purchase and Installment Sale Characteristics, Hire Purchase and Leasing, Advantages of Hire Purchase, Problems of Hire Purchase. <p>b) Housing Finance:</p> <ul style="list-style-type: none"> • Introduction, Housing Finance Industry, Housing Finance Policy Aspect, Sources of Funds, Market of Housing Finance, Housing Finance in India- Major Issues, Housing Finance in India – Growth Factors, Housing Finance Institutions in India, National Housing Bank (NHB), Guidelines for Asset Liability Management System in HFC, Fair Trade Practice Code for HFC's, Housing Finance Agencies |

| SN | Modules/ Units |
|----|---|
| | <p>c) Venture Capital: Introduction, Features of Venture Capital, Types of Venture Capital Financing Stages, Disinvestment mechanisms, Venture Capital Investment process, Indian Scenario</p> |
| 4 | <p>Consumer Finance and Credit Rating</p> |
| | <p>a) Consumer Finance:</p> <ul style="list-style-type: none"> • Introduction, Sources, Types of Products, Consumer Finance Practice in India, Mechanics of Consumer Finance, Terms, Pricing, Marketing and Insurance of Consumer Finance, Consumer Credit Scoring, Case for and against Consumer Finance <p>b) Plastic Money:</p> <ul style="list-style-type: none"> • Growth of Plastic Money Services in India, Types of Plastic Cards- Credit card- Debit Card- Smart card- Add-on Cards, Performance of Credit Cards and Debit Cards, Benefits of Credit Cards, Dangers of Debit Cards, Prevention of Frauds and Misuse, Consumer Protection. Indian Scenario. • Smart Cards- Features, Types, Security Features and Financial Applications <p>c) Credit Rating:</p> <ul style="list-style-type: none"> • Meaning, Origin, Features, Advantages of Rating, Regulatory Framework, Credit Rating Agencies, Credit Rating Process, Credit Rating Symbols. Credit Rating Agencies in India, Limitations of Rating |

*Note: Course No. 03 entitled Taxation - I (Indirect Taxes I) Semester II has been substituted to **Innovative Financial Services** and to be implemented from the Academic Year 2018-2019*

B.Com. (Accounting & Finance) Programme

Under Choice Based Credit, Grading and Semester System

Course Structure

F.Y.B.Com.(Accounting & Finance)

(To be implemented from Academic Year- 2016-2017)

| No. of Courses | Semester I | Credits | No. of Courses | Semester II | Credits |
|----------------------|---|-----------|----------------------|---|-----------|
| 1 | Elective Courses (EC) | | 1 | Elective Courses (EC) | |
| 1 | Financial Accounting (Elements of Financial Accounting) - I | 03 | 1 | Financial Accounting (Special Accounting Areas) - II | 03 |
| 2 | Cost Accounting (Introduction and Element of cost) - I | 03 | 2 | Auditing (Introduction and Planning) - I | 03 |
| 3 | Financial Management (Introduction to Financial Management) - I | 03 | 3 | Taxation - I (Indirect Taxes I) | 03 |
| 2 | Ability Enhancement Courses (AEC) | | 2 | Ability Enhancement Courses (AEC) | |
| 2A | Ability Enhancement Compulsory Course (AECC) | | 2A | Ability Enhancement Compulsory Course (AECC) | |
| 4 | Business Communication - I | 03 | 4 | Business Communication - II | 03 |
| 2B | *Skill Enhancement Courses (SEC) | | 2B | **Skill Enhancement Courses (SEC) | |
| 5 | Any one course from the following list of the courses | 02 | 5 | Any one course from the following list of the courses | 02 |
| 3 | Core Courses (CC) | | 3 | Core Courses (CC) | |
| 6 | Commerce (Business Environment) - I | 03 | 6 | Business Law (Business Regulatory Framework) - I | 03 |
| 7 | Business Economics - I | 03 | 7 | Business Mathematics | 03 |
| Total Credits | | 20 | Total Credits | | 20 |

| *List of Skill Enhancement Courses (SEC) for Semester I (Any One) | | **List of Skill Enhancement Courses (SEC) for Semester II (Any One) | |
|--|---|--|--|
| 1 | Foundation Course - I | 1 | Foundation Course - II |
| 2 | Foundation Course in NSS - I | 2 | Foundation Course in NSS - II |
| 3 | Foundation Course in NCC - I | 3 | Foundation Course in NCC - II |
| 4 | Foundation Course in Physical Education - I | 4 | Foundation Course in Physical Education - II |
| Note: Course selected in Semester I will continue in Semester II | | | |

**Revised Syllabus of Courses of B.Com. (Accounting and Finance)
Programme at Semester I
with Effect from the Academic Year 2016-2017**

Skill Enhancement Courses (SEC)

5. Foundation Course -I

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|--|------------------------|
| 1 | Overview of Indian Society | 05 |
| 2 | Concept of Disparity- 1 | 10 |
| 3 | Concept of Disparity-2 | 10 |
| 4 | The Indian Constitution | 10 |
| 5 | Significant Aspects of Political Processes | 10 |
| | Total | 45 |

| Sr. No. | Modules / Units |
|---------|---|
| 1 | Overview of Indian Society |
| | Understand the multi-cultural diversity of Indian society through its demographic composition: population distribution according to religion, caste, and gender; Appreciate the concept of linguistic diversity in relation to the Indian situation; Understand regional variations according to rural, urban and tribal characteristics; Understanding the concept of diversity as difference |
| 2 | Concept of Disparity- 1 |
| | Understand the concept of disparity as arising out of stratification and inequality; Explore the disparities arising out of gender with special reference to violence against women, female foeticide (declining sex ratio), and portrayal of women in media; Appreciate the inequalities faced by people with disabilities and understand the issues of people with physical and mental disabilities |
| 3 | Concept of Disparity-2 |
| | Examine inequalities manifested due to the caste system and inter-group conflicts arising thereof; Understand inter-group conflicts arising out of communalism; Examine the causes and effects of conflicts arising out of regionalism and linguistic differences |
| 4 | The Indian Constitution |
| | Philosophy of the Constitution as set out in the Preamble; The structure of the Constitution-the Preamble, Main Body and Schedules; Fundamental Duties of the Indian Citizen; tolerance, peace and communal harmony as crucial values in strengthening the social fabric of Indian society; Basic features of the Constitution |
| 5 | Significant Aspects of Political Processes |
| | The party system in Indian politics; Local self-government in urban and rural areas; the 73rd and 74th Amendments and their implications for inclusive politics; Role and significance of women in politics |

**Revised Syllabus of Courses of B.Com. (Accounting and Finance)
Programme at Semester I
with Effect from the Academic Year 2016-2017**

Core Courses (CC)

**6.Commerce-
Business Environment - I**

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|------------------------------|------------------------|
| 1 | Business and its Environment | 15 |
| 2 | Business and Society | 15 |
| 3 | Contemporary Issues | 15 |
| 4 | International Environment | 15 |
| Total | | 60 |

| Sr. No. | Modules / Units |
|---------|---|
| 1 | Business and its Environment |
| | a) Business Objectives, Dynamics of Business and its Environment, Types of Business Environment b) Environmental Analysis: Importance, Factors, PESTEL Analysis, SWOT Analysis |
| 2 | Business and Society |
| | a) Business Ethics: Nature and Scope of Ethics, Ethical Dilemmas, Corporate Culture and Ethical Climate b) Development of Business Entrepreneurship: Entrepreneurship and Economic Development, Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, Entrepreneurship as a Career Option c) Consumerism and Consumer Protection: Consumerism in India, Consumer Protection Act 1986 |
| 3 | Contemporary Issues |
| | a) Corporate Social Responsibility and Corporate Governance: Social Responsibility of Business, Ecology and Business, Carbon Credit b) Social Audit: Evolution of Social Audit, Benefits of Social Audit, Social Audit v/s Commercial Audit |
| 4 | International Environment |
| | a) Strategies for going Global: MNCs and TNCs, WTO b) Foreign Trade in India- Balance of Trade, FDI Investment Flows and its Implication for Indian Industries |

**Revised Syllabus of Courses of B.Com. (Accounting and Finance)
Programme at Semester II
with Effect from the Academic Year 2016-2017**

Skill Enhancement Courses (SEC)

5. Foundation Course – II

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|--|------------------------|
| 1 | Globalisation and Indian Society | 07 |
| 2 | Human Rights | 10 |
| 3 | Ecology | 10 |
| 4 | Understanding Stress and Conflict | 10 |
| 5 | Managing Stress and Conflict in Contemporary Society | 08 |
| | Total | 45 |

| Sr. No | Modules /Units |
|--------|---|
| 1 | Globalisation and Indian Society |
| | Understanding the concepts of liberalization, privatization and globalization;Growth of information technology and communication and its impact manifested in everyday life; Impact of globalization on industry: changes in employment and increasing migration; Changes in agrarian sector due to globalization; rise in corporate farming and increase in farmers' suicides. |
| 2 | Human Rights |
| | Concept of Human Rights; origin and evolution of the concept; The Universal Declaration of Human Rights;Human Rights constituents with special reference to Fundamental Rights stated in the Constitution |
| 3 | Ecology |
| | Importance of Environment Studies in the current developmental context; Understanding concepts of Environment, Ecology and their interconnectedness; Environment as natural capital and connection to quality of human life; Environmental Degradation- causes and impact on human life;Sustainable development- concept and components; poverty and environment |
| 4 | Understanding Stress and Conflict |
| | Causes of stress and conflict in individuals and society; Agents of socialization and the role played by them in developing the individual; Significance of values, ethics and prejudices in developing the individual; Stereotyping and prejudice as significant factors in causing conflicts in society. Aggression and violence as the public expression of conflict |
| 5 | Managing Stress and Conflict in Contemporary Society |
| | Types of conflicts and use of coping mechanisms for managing individual stress; Maslow's theory of self-actualisation;Different methods of responding to conflicts in society; Conflict-resolution and efforts towards building peace and harmony in society |

**Revised Syllabus of Courses of B.Com. Programme at Semester I
with Effect from the Academic Year 2016-2017**

Ability Enhancement Courses (AEC)

5.Environmental Studies I

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|--|------------------------|
| 1 | Environment and Ecosystem | 13 |
| 2 | Natural Resources and Sustainable Development | 13 |
| 3 | Populations and Emerging Issues of Development | 13 |
| 4 | Urbanisation and Environment | 13 |
| 5 | Reading of Thematic Maps and Map Filling | 08 |
| Total | | 60 |

| Sr. No. | Modules / Units |
|---------|--|
| 1 | Environment and Ecosystem |
| | Environment: Meaning, definition, scope and its components; concept of an ecosystem : definition, Characteristics, components and types, functioning and structure; Food Chain and Food Web- Ecological Pyramids - Man and environment relationship; Importance and scope of Environmental Studies. |
| 2 | Natural Resources and Sustainable Development |
| | Meaning and definitions ; Classification and types of resources, factors influencing resource; Resource conservation- meaning and methods- I and non-conventional resources, problems associated with and management of water, forest and energy resources- resource utilization and sustainable development |
| 3 | Populations and Emerging Issues of Development |
| | Population explosion in the world and in India and arising concerns- Demographic Transition Theory - pattern of population growth in the world and in India and associated problems - Measures taken to control population growth in India; Human population and environment- Environment and Human Health – Human Development Index – The World Happiness Index |
| 4 | Urbanisation and Environment |
| | Concept of Urbanisation– Problems of migration and urban environment-changing landuse, crowding and stress on urban resources, degradation of air and water, loss of soil cover impact on biodiversity, Urban heat islands – Emerging Smart Cities and safe cities in India - Sustainable Cities |
| 5 | Reading of Thematic Maps and Map Filling |
| | Reading of Thematic Maps(4 Lectures) Located bars, Circles, Pie charts, Isopleths, Choropleth and Flow map, Pictograms - Only reading and interpretation. Map Filling: (4 Lectures) Map filling of World (Environmentally significant features) using point, line and polygon segment. Concept and Calculation of Ecological Footprint |

**Revised Syllabus of Courses of B.Com. Programme at Semester II
with Effect from the Academic Year 2016-2017**

Ability Enhancement Courses (AEC)

4.Environmental Studies II

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|--|------------------------|
| 1 | Solid Waste Management for Sustainable Society | |
| 2 | Agriculture and Industrial Development | |
| 3 | Tourism and Environment | |
| 4 | Environmental Movements and Management | |
| 5 | Map Filling | |
| Total | | 60 |

| Sr. No. | Modules / Units |
|---------|--|
| 1 | Solid Waste Management for Sustainable Society |
| | Classification of solid wastes – Types and Sources of Solid Waste ; Effects of Solid Waste Pollution- Health hazards, Environmental Impacts; Solid Waste Management – solid waste management in Mumbai- Schemes and initiatives run by MCGM – role of citizens in waste management in Mumbai |
| 2 | Agriculture and Industrial Development |
| | Environmental Problems Associated with Agriculture: Loss of Productivity, Land Degradation ,desertification - Uneven Food Production – Hunger, Malnutrition and Food Security – Sustainable Agricultural practices Environmental Problems Associated with Industries – pollution -Global warming, Ozone Layer Depletion , Acid rain, - Sustainable Industrial practices – Green Business and Green Consumerism, Corporate Social Responsibility |
| 3 | Tourism and Environment |
| | Tourism: Meaning, Nature, Scope and importance –Typology of tourism-classification; Tourism potentials in India and challenges before India; New Tourism Policy of India; Consequences of tourism : Positive and Negative Impacts on Economy, Culture and environment- Ecotourism |
| 4 | Environmental Movements and Management |
| | Environmental movements in India: Save Narmada Movement, Chipko Movement, Appiko Movement, Save Western Ghat and Save Jaitapur; Environmental Management: Concept, need and relevance; Concept of ISO 14000 and 16000; Concept of Carbon Bank and Carbon Credit.EIA - Environment Protection Acts – Concept and components of Geospatial Technology- Applications of GST in Environmental Management. |
| 5 | Map Filling |
| | Map filling of Konkan and Mumbai (Environmentally significant features and GST centers) using point, line and polygon segment. Concept and Calculation of Environmental Performance Index (EPI) |

B.Com. Programme
Under Choice Based Credit, Grading and Semester System
Course Structure

(To be implemented from Academic Year- 2017-2018)

Semester III

| No. of Courses | Semester III | Credits |
|----------------------|--|-----------|
| 1 | Elective Courses (EC) | |
| 1A | Discipline Specific Elective(DSE) Courses | |
| 1Aa | Discipline Specific Elective(DSE) Courses | |
| 1 | Accountancy and Financial Management III | 03 |
| 1Ab | Discipline Specific Elective(DSE) Courses | |
| 2 | *Any one course from the following list of the courses | 03 |
| 1B | Discipline Related Elective(DRE) Courses | |
| 3 | Commerce III | 03 |
| 4 | Business Economics III | 03 |
| 2 | Ability Enhancement Courses (AEC) | |
| 2A | *Skill Enhancement Courses (SEC) Group A | |
| 5 | *Any one course from the following list of the courses | 03 |
| 2B | *Skill Enhancement Courses (SEC) Group B | |
| 6 | Any one course from the following list of the courses | 02 |
| 3 | Core Courses (CC) | |
| 7 | Business Law I | 03 |
| Total Credits | | 20 |

| 1Ab *List of Discipline Specific Elective (DSE) Courses for Semester III (Any One) | |
|---|---|
| 1 | Financial Accounting and Auditing - Introduction to Management Accounting |
| 2 | Business Management - Marketing Management |
| 3 | Banking & Finance- Introduction to Banking in India |
| 4 | Commerce- International Business Relations |

**Revised Syllabus of Courses of B.Com. Programme at Semester III
with Effect from the Academic Year 2017-2018**

**Elective Courses (EC)-
1B Discipline Related Elective (DRE) Courses**

3. Commerce –III

(Management: Functions and Challenges)

Course Objectives:

- To make the learners aware about conceptual knowledge and evolution of Management.
- To familiarize the learners with the functions in Management.

| Sr. No. | Modules | No. of Lectures |
|--------------|----------------------------|-----------------|
| 1 | Introduction To Management | 11 |
| 2 | Planning & Decision Making | 10 |
| 3 | Organising | 12 |
| 4 | Directing And Controlling | 12 |
| Total | | 45 |

| Sr. No. | Modules |
|---------|---|
| 1 | Introduction To Management (11) |
| | <ul style="list-style-type: none"> • Management- Concept, Nature, Functions, Managerial Skills & Competencies • Evolution of Management Thoughts Classical Approach: Scientific Management – F.W.Taylor’s Contribution Classical Organisation Theory: HenriFayol’s Principles Neo Classical: Human Relations Approach – EltonMayo’sHawthorne experiments • Modern Management Approach-PeterDrucker’s Dimensions of Management, Indian Management Thoughts: Origin & Significance of Indian Ethos to Management. |
| 2 | Planning & Decision Making (10) |
| | <ul style="list-style-type: none"> • Planning - Steps, Importance, Components, Coordination – Importance • M.B.O -Process, Advantages, Management By Exception- Advantages; Management Information System- Concept, Components • Decision Making - Techniques, Essentials of a Sound Decision Making, Impact of Technology on Decision Making. |
| 3 | Organising (12) |
| | <ul style="list-style-type: none"> • Organising-Steps, Organisation Structures – Features of Line & Staff Organisation, Matrix Organisation , Virtual Organisation, Formalv/s Informal Organisation. • Departmentation -Meaning -Bases,Span of Management- Factors Influencing Span of Management, Tall and Flat Organisation. • Delegation of Authority- Process, Barriers to Delegation, Principles of Effective Delegation. Decentralisation:Factors Influencing Decentralisation, Centralization v/s Decentralisation |
| 4 | Directing And Controlling (12) |
| | <ul style="list-style-type: none"> • Motivation – Concept, Importance, Influencing factors. Importance of Communication, Barriers to effective Communication • Leadership- Concept,Functions, Styles, Qualities of a good leader. • Controlling – Concept, Steps, Essentials of good control system, Techniques of Controlling -PERT, CPM, Budgetary Control, Management Audit. |

**Revised Syllabus of Courses of B.Com. Programme at Semester III
with Effect from the Academic Year 2017-2018**

**2 Ability Enhancement Courses (AEC)
2A * Skill Enhancement Courses (SEC) Group A**

5. Advertising - I

Course Objective:

1. To highlight the role of advertising for the success of brands and its importance within the marketing function of a company.
2. It aims to orient learners towards the practical aspects and techniques of advertising.
3. It is expected that this course will prepare learners to lay down a foundation for advanced post-graduate courses in advertising

| Sr. No. | Modules | No. of Lectures |
|--------------|--|-----------------|
| 1 | Introduction to Advertising | 12 |
| 2 | Advertising Agency | 11 |
| 3 | Economic & Social Aspects of Advertising | 11 |
| 4 | Brand Building and Spécial Purpose Advertising | 11 |
| Total | | 45 |

| Sr. No. | Modules |
|---------|--|
| 1 | Introduction to Advertising |
| | <ul style="list-style-type: none"> • Integrated Marketing Communications (IMC)- Concept, Features, Elements, Role of advertising in IMC • Advertising: Concept, Features, Evolution of Advertising, Active Participants, Benefits of advertising to Business firms and consumers. • Classification of advertising: Geographic, Media, Target audience and Functions. |
| 2 | Advertising Agency |
| | <ul style="list-style-type: none"> • Ad Agency: Features, Structure and services offered, Types of advertising agencies , Agency selection criteria • Agency and Client: Maintaining Agency–Client relationship, Reasons and ways of avoiding Client Turnover, Creative Pitch, Agency compensation • Careers in advertising: Skills required for a career in advertising, Various Career Options, Freelancing Career Options - Graphics, Animation, Modeling, Dubbing. |
| 3 | Economic & Social Aspects of Advertising |
| | <ul style="list-style-type: none"> • Economic Aspects: Effect of advertising on consumer demand, monopoly and competition, Price. • Social aspects: Ethical and social issues in advertising, positive and negative influence of advertising on Indian values and culture. • Pro Bono/Social advertising: Pro Bono Advertising, Social Advertising by Indian Government through Directorate of Advertising and Visual Publicity (DAVP), Self-Regulatory body- Role of ASCI (Advertising Standard Council of India) |
| 4 | Brand Building and Special Purpose Advertising |
| | <ul style="list-style-type: none"> • Brand Building: The Communication Process, AIDA Model, Role of advertising in developing Brand Image and Brand Equity, and managing Brand Crises. • Special purpose advertising: Rural advertising, Political advertising-, Advocacy advertising, Corporate Image advertising, Green Advertising – Features of all the above special purpose advertising. • Trends in Advertising: Media, Ad spends, Ad Agencies, Execution of advertisements |

B.Com. Programme
Under Choice Based Credit, Grading and Semester System
Course Structure

(To be implemented from Academic Year- 2017-2018)

Semester IV

| No. of Courses | Semester IV | Credits |
|----------------------|--|-----------|
| 1 | Elective Courses (EC) | |
| 1A | Discipline Specific Elective(DSE) Courses | |
| 1Aa | Discipline Specific Elective(DSE) Courses | |
| 1 | Accountancy and Financial Management IV | 03 |
| 1Ab | Discipline Specific Elective(DSE) Courses | |
| 2 | *Any one course from the following list of the courses | 03 |
| 1B | Discipline Related Elective(DRE) Courses | |
| 3 | Commerce IV | 03 |
| 4 | Business Economics IV | 03 |
| 2 | Ability Enhancement Courses (AEC) | |
| 2A | *Skill Enhancement Courses (SEC) Group A | |
| 5 | *Any one course from the following list of the courses | 03 |
| 2B | *Skill Enhancement Courses (SEC) Group B | |
| 6 | Any one course from the following list of the courses | 02 |
| 3 | Core Courses (CC) | |
| 7 | Business Law II | 03 |
| Total Credits | | 20 |

| 1Ab *List of Discipline Specific Elective (DSE) Courses for Semester IV (Any One) | |
|--|---|
| 1 | Financial Accounting and Auditing - Auditing |
| 2 | Business Management- Marketing Management |
| 3 | Banking & Finance- Introduction to Banking in India |
| 4 | Commerce- International Business Relations |

**Revised Syllabus of Courses of B.Com. Programme at Semester IV
with Effect from the Academic Year 2017-2018**

**Elective Courses (EC)-
1B Discipline Related Elective (DRE) Courses**

**3. Commerce – IV
(Management: Production & Finance)**

Course Objectives: -

1. To acquaint the learners with the basic concepts of Production Management, Inventory Management & Quality Management.
2. To provide basic knowledge about Indian Financial Systems.
3. To update the learners with the recent trends in Finance.

| Sr. No. | Modules | No. of Lectures |
|----------------|-----------------------------------|------------------------|
| 1 | Production & Inventory Management | 11 |
| 2 | Quality Management | 10 |
| 3 | Indian Financial System | 12 |
| 4 | Recent Trends In Finance | 12 |
| | Total | 45 |

| Sr. No. | Modules |
|---------|---|
| 1 | Production & Inventory Management |
| | <ul style="list-style-type: none"> • Production Management: Objectives, Scope Production Planning & Control : Steps, Importance • Production Systems: Concept, Types - Continuous and Intermittent. Productivity: Concept, Factors Influencing Productivity, Measures for improving Productivity. • Inventory Management- Objectives, Inventory Control- Techniques. Scientific Inventory Control System - Importance |
| 2 | Quality Management |
| | <ul style="list-style-type: none"> • Introduction to Quality: Dimensions of Quality, Cost of Quality: Types – Internal Failure Cost, External Failure Cost, Appraisal Cost, Prevention Cost, Quality Circle: Features. • Quality Management Tools: TQM – Importance, Six Sigma – Process, ISO 9000 – Certification Procedure, Kaizen – Process • Service Quality Management: Importance, SERVQUAL Model, Measures to improve service quality. |
| 3 | Indian Financial System |
| | <ul style="list-style-type: none"> • Indian Financial Market: Structure, Primary Market – IPO Procedure Dematerialisation: Process, Role of Depositories : NSDL and CDSL • SEBI: Functions of SEBI, Investors protection measures of SEBI. Stock Exchange – Functions, Speculators. • Credit Rating: Advantages, Credit Rating Agencies in India - CRISIL, CARE, and ICRA. |
| 4 | Recent Trends In Finance |
| | <ul style="list-style-type: none"> • Mutual Funds- Advantages and Limitations, Types, Factors responsible for growth of mutual funds – Systematic Investment Plan. • Commodity Market: Categories, Derivatives Market: Types, Participants, Types of Derivative Instruments. • Start-up Ventures – Concept, Sources of Funding, Micro Finance – Importance, Role of Self Help Groups. |

**Revised Syllabus of Courses of B.Com. Programme at Semester IV
with Effect from the Academic Year 2017-2018**

**2 Ability Enhancement Courses (AEC)
2A * Skill Enhancement Courses (SEC) Group A**

5. Advertising - II

Course Objective:

1. To highlight the role of advertising for the success of brands and its importance within the marketing function of a company.
2. It aims to orient learners towards the practical aspects and techniques of advertising.
3. It is expected that this course will prepare learners to lay down a foundation for advanced post-graduate courses in advertising

| Sr. No. | Modules | No. of Lectures |
|----------------|---|------------------------|
| 1 | Media in Advertising | 11 |
| 2 | Planning Advertising Campaign | 11 |
| 3 | Execution and Evaluation of Advertising | 11 |
| 4 | Fundamentals of Creativity in Advertising | 12 |
| Total | | 45 |

| Sr. No. | Modules |
|---------|---|
| 1 | Media in Advertising |
| | <ul style="list-style-type: none"> • Traditional Media: Print, Broadcasting, Out-Of-Home advertising and films - advantages and limitations of all the above traditional media • New Age Media: Digital Media / Internet Advertising – Forms, Significance and Limitations • Media Research: Concept, Importance, Tool for regulation - ABC and Doordarshan Code |
| 2 | Planning Advertising Campaigns |
| | <ul style="list-style-type: none"> • Advertising Campaign: Concept, Advertising Campaign Planning -Steps Determining advertising objectives - DAGMAR model • Advertising Budgets: Factors determining advertising budgets, methods of setting advertising budgets, Media Objectives - Reach, Frequency and GRPs • Media Planning: Concept, Process, Factors considered while selecting media, Media Scheduling Strategies |
| 3 | Fundamentals of Creativity in Advertising |
| | <ul style="list-style-type: none"> • Creativity: Concept and Importance, Creative Process, Concept of Creative Brief, Techniques of Visualization • Creative aspects: Buying Motives - Types, Selling Points- Features, Appeals – Types, Concept of Unique Selling Proposition (USP) • Creativity through Endorsements: Endorsers – Types, Celebrity Endorsements – Advantages and Limitations, High Involvement and Low Involvement Products |
| 4 | Execution and Evaluation of Advertising |
| | <ul style="list-style-type: none"> • Preparing print ads: Essentials of Copywriting, Copy – Elements, Types, Layout- Principles, Illustration - Importance. • Creating broadcast ads: Execution Styles, Jingles and Music – Importance, Concept of Storyboard • Evaluation: Advertising copy, Pre-testing and Post-testing of Advertisements – Methods and Objectives |

**Revised Syllabus of Courses of B.Com. Programme at Semester V
with effect from the Academic Year 2018-2019**

Elective Courses (EC)

1 B. Discipline Related Elective (DRE) Courses

**3. Commerce - V
Marketing**

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|---------------------------|------------------------|
| 1 | Introduction to Marketing | 12 |
| 2 | Marketing Decisions I | 11 |
| 3 | Marketing Decisions | 11 |
| 4 | Key Marketing Dimensions | 11 |
| Total | | 45 |

| Sr. No. | Modules / Units |
|---------|--|
| 1 | Introduction to Marketing |
| | <ul style="list-style-type: none"> • Marketing, Concept, Features, Importance, Functions, Evolution, Strategic v/s Traditional Marketing • Marketing Research - Concept, Features, Process Marketing Information System-Concept, Components Data Mining- Concept, Importance • Consumer Behaviour- Concept, ,Factors influencing Consumer Behaviour Market Segmentation- Concept, Benefits, Bases of market segmentation Customer Relationship Management- Concept , Techniques Market Targeting- Concept, Five patterns of Target market Selection |
| 2 | Marketing Decisions I |
| | <ul style="list-style-type: none"> • Marketing Mix- Concept, Product- Product Decision Areas Product Life Cycle- Concept, Managing stages of PLC Branding- Concept , Components Brand Equity- Concept , Factors influencing Brand Equity • Packaging- Concept , Essentials of a good package Product Positioning- Concept, Strategies of Product Positioning Service Positioning- Importance & Challenges • Pricing- Concept, Objectives, Factors influencing Pricing, Pricing Strategies |
| 3 | Marketing Decisions |
| | <ul style="list-style-type: none"> • Physical Distribution- Concept, Factors influencing Physical Distribution, Marketing Channels (Traditional & Contemporary Channels) Supply Chain Management-Concept, Components of SCM • Promotion- Concept, Importance, Elements of Promotion mix Integrated Marketing Communication (IMC)- Concept, Scope ,Importance • Sales Management- Concept, Components, Emerging trends in selling Personal Selling- Concept , Process of personal selling, Skill Sets required for Effective Selling |
| 4 | Key Marketing Dimensions |
| | <ul style="list-style-type: none"> • Marketing Ethics: Concept, Unethical practices in marketing, General role of consumer organizations Competitive Strategies for Market Leader, Market Challenger, Market Follower and Market Nicher Marketing Ethics: • Rural Marketing- Concept, Features of Indian Rural Market, Strategies for Effective Rural Marketing Digital Marketing-Concept, trends in Digital Marketing Green Marketing- concept, importance • Challenges faced by Marketing Managers in 21st Century Careers in Marketing – Skill sets required for effective marketing Factors contributing to Success of brands in India with suitable examples, Reasons for failure of brands in India with suitable examples. |

**Revised Syllabus of Courses of B.Com. Programme at Semester V
with effect from the Academic Year 2018-2019**

Elective Courses (EC)

2. Ability Enhancement Courses (AEC)

3. Export Marketing Paper - I

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|---------------------------------------|------------------------|
| 1 | Introduction to Export Marketing | 12 |
| 2 | Global Framework for Export Marketing | 11 |
| 3 | India's Foreign Trade Policy | 11 |
| 4 | Export Incentives and Assistance | 11 |
| Total | | 45 |

| Sr. No. | Modules / Units |
|----------|---|
| 1 | Introduction to Export Marketing |
| | a) Concept and features of Export Marketing; Importance of Exports for a Nation and a Firm; Distinction between Domestic Marketing and Export Marketing b) Factors influencing Export Marketing; Risks involved in Export Marketing; Problems of India's Export Sector c) Major merchandise/commodities exports of India (since 2015); Services exports of India (since 2015); Region-wise India's Export Trade (since 2015) |
| 2 | Global Framework for Export Marketing |
| | a) Trade barriers; Types of Tariff Barriers and Non-Tariff barriers; Distinction between Tariff and Non-Tariff barriers b) Major Economic Groupings of the World; Positive and Negative Impact of Regional Economic Groupings; Agreements of World Trade Organisation (WTO) c) Need for Overseas Market Research; Market Selection Process, Determinants of Foreign Market Selection |
| 3 | India's Foreign Trade Policy |
| | a) Foreign Trade Policy (FTP) 2015-20 - Highlights and Implications, Export Trade facilitations and ease of doing business as per the new FTP b) Role of Directorate General of Foreign Trade (DGFT), Negative list of Exports, Deemed Exports c) Benefits to Status Holders & Towns of Excellence; Common benefits for EHTP, BTP and STP; Benefits enjoyed by (IIAs) Integrated Industrial Areas(SEZ), EOU, AEZ |
| 4 | Export Incentives and Assistance |
| | a. Financial Incentives available to Indian Exporters - Marketing Development Assistance (MDA), Market Access Initiative (MAI), Assistance to States for Infrastructure Development for Exports (ASIDE), Industrial Raw Material Assistance Centre(IRMAC), b. Institutional Assistance to Indian Exporters - Federation of Indian Export Organisations (FIEO), India Trade Promotion Organisation (ITPO), The Federation of Indian Chambers of Commerce and Industry (FICCI), Export Promotion Councils (EPCs) & Commodity Boards (CBs), Indian Institute of Foreign Trade (IIFT), Indian Institute of Packaging (IIP) c. Schemes - Export Promotion Capital Goods (EPCG) Scheme, Duty Exemption and Remission Schemes, Export Advance Authorisation Scheme; Duty Drawback (DBK); IGST Refund for Exporters |

***Revised Syllabus of Courses of B.Com. Programme at Semester VI
with effect from the Academic Year 2018-2019***

Elective Courses (EC)

1 B. Discipline Related Elective (DRE) Courses

3. Commerce-VI

Human Resource Management

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|-------------------------------------|------------------------|
| 01 | Human Resource Management | 12 |
| 02 | Human Resource Development | 11 |
| 03 | Human Relations | 11 |
| 04 | Trends In Human Resource Management | 11 |
| Total | | 45 |

| Sr. No. | Modules / Units |
|---------|---|
| 1 | Human Resource Management |
| | <ul style="list-style-type: none"> • Human Resource Management – Concept, Functions, Importance, Traditional v/s Strategic Human Resource Management • Human Resource Planning- Concept Steps in Human Resource Planning Job Analysis-Concept, Components, Job design- Concept, Techniques • Recruitment- Concept, Sources of Recruitment Selection - Concept , process , Techniques of E,selection, |
| 2 | Human Resource Development |
| | <ul style="list-style-type: none"> • Human Resource Development- Concept, functions Training- Concept, Process of identifying training and development needs, Methods of Training & Development (Apprenticeship, understudy, job rotation, vestibule training, case study, role playing, sensitivity training, In, basket, management games) Evaluating training effectiveness- Concept, Methods • Performance Appraisal- Concept, Benefits, Limitations, Methods Potential Appraisal-Concept, Importance • Career Planning- Concept, Importance Succession Planning- Concept, Need Mentoring- Concept, Importance Counseling- Concept, Techniques. |
| 3 | Human Relations |
| | <ul style="list-style-type: none"> • Human Relations- Concept, Significance Leadership –Concept, Transactional & Transformational Leadership Motivation- Concept, Theories of Motivation,(Maslow’s Need Hierarchy Theory, Vroom’s Expectancy Theory, McGregor’s Theory X and Theory Y, Pink’s Theory of Motivation) • Employees Morale- Concept, Factors affecting Morale, Measurement of Employees Morale Emotional Quotient and Spiritual Quotient- Concept, Factors affecting EQ & SQ • Employee Grievance- Causes, Procedure for Grievance redressal Employee welfare measures and Healthy & Safety Measures. |
| 4 | Trends In Human Resource Management |
| | <ul style="list-style-type: none"> • HR in changing environment: Competencies- concept, classification Learning organizations- Concept, Creating an innovative organization, Innovation culture- Concept, Need, Managerial role. • Trends in Human Resource Management,; Employee Engagement- Concept, Types Human resource Information System (HRIS) – Concept, Importance, Changing patterns of employment. • Challenges in Human Resource Management: Employee Empowerment, Workforce Diversity. Attrition, Downsizing, Employee Absenteeism, Work life Balance, Sexual Harassment at work place, Domestic and International HR Practices, Millennial (Gen Y)Competency Mapping |

**Revised Syllabus of Courses of B.Com. Programme at Semester VI
with effect from the Academic Year 2018-2019**

Elective Courses (EC)

2. Ability Enhancement Courses (AEC)

3. Export Marketing Paper - II

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|---|------------------------|
| 1 | Product Planning and Pricing Decisions for Export Marketing | 12 |
| 2 | Export Distribution and Promotion | 11 |
| 3 | Export Finance | 11 |
| 4 | Export Procedure and Documentation | 11 |
| Total | | 45 |

| Sr. No. | Modules / Units |
|---------|---|
| 1 | Product Planning and Pricing Decisions for Export Marketing |
| | a) Planning for Export Marketing with regards to Product, Branding, Packaging b) Need for Labelling and Marking in Exports, Factors determining Export Price; Objectives of Export Pricing c) International Commercial (INCO) Terms; Export Pricing Quotations – Free on Board (FOB), Cost Insurance and Freight (CIF) and Cost and Freight (C&F); Problems on FOB quotation |
| 2 | Export Distribution and Promotion |
| | a) Factors influencing Distribution Channels; Direct and Indirect Exporting Channels; Distinction between Direct and Indirect Exporting Channels b) Components of Logistics in Export marketing; Selection criteria of Modes of Transport; Need for Insurance in Export Marketing c) Sales Promotion Techniques used in Export Marketing; Importance of Trade Fairs and Exhibitions; Benefits of Personal Selling; Essentials of Advertising in Export Marketing; |
| 3 | Export Finance |
| | a) Methods of Payment In export marketing; Procedure to open Letter of Credit, Types and Benefits of Countertrade b) Features of Pre-shipment and Post-shipment finance; Procedure to obtain Export Finance; Distinction between Pre-shipment Finance and Post Shipment Finance. c) Role of Commercial Banks, EXIM Bank, SIDBI in financing exporters; Role of ECGC |
| 4 | Export Procedure and Documentation |
| | a. Registration with different authorities; Pre-shipment Procedure involved in Exports; Procedure of Quality Control and Pre-shipment Inspection; b. Shipping and Custom Stage Formalities; Role of Clearing & Forwarding Agent; Post-shipment Procedure for Realisation of Export Proceeds; Procedure of Export under Bond and Letter of Undertaking. (LUT) c. Importance of - Commercial Invoice cum Packing list, Bill of Lading/ Airway Bill, Shipping Bill/Bill of Export, Consular Invoice, Certificate of Origin |

**Revised Syllabus of Courses of Bachelor of Management Studies (BMS)
Programme at Semester III
with Effect from the Academic Year 2017-2018**

**Elective Courses (EC)
Group C. Human Resource Electives**

2. Motivation & Leadership

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|----------------|------------------------|
| 1 | Motivation -I | 12 |
| 2 | Motivation-II | 15 |
| 3 | Leadership-I | 17 |
| 4 | Leadership-II | 16 |
| Total | | 60 |

Objectives

| SN | Objectives |
|-----------|---|
| 1 | To gain knowledge of the leadership strategies for motivating people and changing organizations |
| 2 | To study how leaders facilitate group development and problem solving and work through problems and issues as well as transcend differences |
| 3 | To acquaint the students about practical approaches to Motivation and Leadership & its application in the Indian context |

| Sr. No. | Modules / Units |
|----------|---|
| 1 | Motivation-I |
| | <ul style="list-style-type: none"> • Concept of motivation, Importance, Tools of Motivation. • Theory Z, Equity theory. • Process Theories-Vroom's Expectancy Theory, Valency-Four drive model. |
| 2 | Motivation-II |
| | <ul style="list-style-type: none"> • East v/s West, motivating workers (in context to Indian workers) • The Indian scene – basic differences. • Work –Life balance – concept, differences, generation and tips on work life balance. |
| 3 | Leadership-I |
| | <ul style="list-style-type: none"> • Leadership– Meaning, Traits and Motives of an Effective Leader, Styles of Leadership. • Theories –Trait Theory, Behavioural Theory, Path Goal Theory. • Transactional v/s Transformational leaders. • Strategic leaders– meaning, qualities. • Charismatic Leaders– meaning of charisma, Qualities, characteristics, types of charismatic leaders (socialized, personalized, office-holder, personal, divine) |
| 4 | Leadership-II |
| | <ul style="list-style-type: none"> • Great leaders, their style, activities and skills (Ratan Tata, Narayan Murthy, Dhirubhai Ambani, Bill Gates, Mark Zuckerberg, Donald Trump) • Characteristics of creative leaders and organization methods to enhance creativity (Andrew Dubrein). • Contemporary issues in leadership–Leadership roles, team leadership, mentoring, self leadership, online leadership, finding and creating effective leader. |

***Revised Syllabus of Courses of Bachelor of Management Studies
(BMS) Programme at Semester III
with Effect from the Academic Year 2017-2018***

***2. Ability Enhancement Courses (AEC)
2B. Skill Enhancement Courses (SEC)***

**4. Foundation Course –III
Environmental Management**

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|---|------------------------|
| 1 | Environmental Concepts | 12 |
| 2 | Environment degradation | 11 |
| 3 | Sustainability and role of business | 11 |
| 4 | Innovations in business- an environmental Perspective | 11 |
| Total | | 45 |

| Sr. No. | Modules / Units |
|---------|--|
| 1 | Environmental Concepts: |
| | <ul style="list-style-type: none"> • Environment: Definition and composition, Lithosphere, Atmosphere, Hydrosphere, Biosphere • Biogeochemical cycles - Concept and water cycle • Ecosystem & Ecology; Food chain, food web & Energy flow pyramid • Resources: Meaning, classification(Renewable & non-renewable), types & Exploitation of Natural resources in sustainable manner |
| 2 | Environment degradation |
| | <ul style="list-style-type: none"> • Degradation-Meaning and causes, degradation of land, forest and agricultural land and its remedies • Pollution – meaning, types, causes and remedies (land, air, water and others) • Global warming: meaning, causes and effects. • Disaster Management: meaning, disaster management cycle. • Waste Management: Definition and types -solid waste management anthropogenic waste, e-waste & biomedical waste (consumerism as a cause of waste) |
| 3 | Sustainability and role of business |
| | <ul style="list-style-type: none"> • Sustainability: Definition, importance and Environment Conservation. • Environmental clearance for establishing and operating Industries in India. • EIA, Environmental auditing, ISO 14001 • Salient features of Water Act, Air Act and Wildlife Protection Act. • Carbon bank & Kyoto protocol |
| 4 | Innovations in business- an environmental perspective |
| | <p>Non-Conventional energy sources- Wind, Bio-fuel, Solar, Tidal and Nuclear Energy.</p> <p>Innovative Business Models: Eco-tourism, Green marketing, Organic farming, Eco-friendly packaging, Waste management projects for profits ,other business projects for greener future</p> |

**Revised Syllabus of Courses of Bachelor of Management Studies (BMS)
Programme at Semester III
with Effect from the Academic Year 2017-2018**

3. Core Courses (CC)

7. Strategic Management

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|--------------------------------|------------------------|
| 1 | Introduction | 12 |
| 2 | Strategy Formulation | 16 |
| 3 | Strategic Implementation | 18 |
| 4 | Strategic Evaluation & Control | 14 |
| Total | | 60 |

Objectives

| SN | Objectives |
|-----------|--|
| 1 | The objective of this course is to learn the management policies and strategies at every Level to develop conceptual skills in this area as well as their application in the corporate world. |
| 2 | The focus is to critically examine the management of the entire enterprise from the Top Management view points. |
| 3 | This course deals with corporate level Policy & Strategy formulation areas. This course aims to developing conceptual skills in this area as well as their application in the corporate world. |

| Sr. No. | Modules / Units |
|---------|---|
| 1 | Introduction |
| | <ul style="list-style-type: none"> • Business Policy-Meaning, Nature, Importance • Strategy-Meaning, Definition • Strategic Management-Meaning, Definition, Importance, Strategic management • Process & Levels of Strategy and Concept and importance of Strategic Business Units (SBU's) • Strategic Intent-Mission, Vision, Goals, Objective, Plans |
| 2 | Strategy Formulation |
| | <ul style="list-style-type: none"> • Environment Analysis and Scanning(SWOT) • Corporate Level Strategy (Stability, Growth, Retrenchment, Integration and Internationalization) • Business Level Strategy(Cost Leadership, Differentiation, Focus) • Functional Level Strategy(R&D, HR, Finance, Marketing, Production) |
| 3 | Strategic Implementation |
| | <ul style="list-style-type: none"> • Models of Strategy making. • Strategic Analysis& Choices &Implementation: BCG Matrix, GE 9Cell, Porter5 Forces, 7S Frame Work • Implementation: Meaning, Steps and implementation at Project, Process, Structural ,Behavioural ,Functional level. |
| 4 | Strategic Evaluation & Control |
| | <p>Strategic Evaluation & Control– Meaning, Steps of Evaluation & Techniques of Control</p> <p>Synergy: Concept , Types , evaluation of Synergy. Synergy as a Component of Strategy & its Relevance.</p> <p>Change Management– Elementary Concept</p> |

**Revised Syllabus of Courses of Bachelor of Management Studies (BMS)
Programme at Semester IV
with Effect from the Academic Year 2017-2018**

3. Core Courses (CC)

6. Business Research Methods

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|---|------------------------|
| 1 | Introduction to business research methods | 18 |
| 2 | Data collection and Processing | 14 |
| 3 | Data analysis and Interpretation | 16 |
| 4 | Advanced techniques in Report Writing | 12 |
| Total | | 60 |

Objectives

| SN | Objectives |
|-----------|--|
| 1 | The course is designed to inculcate the analytical abilities and research skills among the students. |
| 2 | The course intends to give hands on experience and learning in Business Research. |

| Sr. No. | Modules / Units |
|---------|--|
| 1 | Introduction to business research methods |
| | <ul style="list-style-type: none"> • Meaning and objectives of research • Types of research– a)Pure, Basic and Fundamental b) Applied, c)Empirical d) Scientific & Social e)Historical f) Exploratory g) Descriptive h)Causal • Concepts in Research: Variables, Qualitative and Quantitative Research • Stages in research process. • Characteristics of Good Research • Hypothesis-Meaning, Nature, Significance, Types of Hypothesis, Sources. • Research design– Meaning, Definition, Need and Importance, Steps in research design, Essentials of a good research design, Areas / Scope of research design and Types-Descriptive, Exploratory and causal. • Sampling– <ul style="list-style-type: none"> a) meaning of sample and sampling, b) methods of sampling-i)Non Probability Sampling– Convenient, Judgment, Quota, Snow ball ii) Probability– Simple Random, Stratified, Cluster, Multi Stage. |
| 2 | Data collection and Processing |
| | <ul style="list-style-type: none"> • Types of data and sources-Primary and Secondary data sources • Methods of collection of primary data <ul style="list-style-type: none"> a) Observation- i)structured and unstructured, ii) disguised and undisguised, iii)mechanical observations (use of gadgets) b) Experimental i)Field ii) Laboratory c) Interview – i) Personal Interview ii)focused group, iii) in- depth interviews - Method, d) Survey– Telephonic survey, Mail, E-mail, Internet survey, Social media, and Media listening. e) Survey instrument– i) Questionnaire designing. f) Types of questions– i) structured/ close ended and ii) unstructured/ open ended, iii) Dicotomous, iv) Multiple Choice Questions. f) Scaling techniques-i) Likert scale, ii) Semantic Differential scale |
| 3 | Data analysis and Interpretation |
| | <ul style="list-style-type: none"> • Processing of data– i) Editing- field and office editing, ii)coding– meaning and essentials, iii) tabulation – note • Analysis of data-Meaning, Purpose, types. • Interpretation of data-Essentials, importance and Significance of processing data • Multivariate analysis– concept only • Testing of hypothesis– concept and problems– i)chi square test, ii) Zandt-test (for large and small sample) |
| 4 | Advanced techniques in Report Writing |
| | <ul style="list-style-type: none"> • Report writing – i) Meaning , importance, functions of reports, essential of a good report, content of report , steps in writing a report, types of reports, Footnotes and Bibliography • Ethics and research • Objectivity, Confidentiality and anonymity in Research • Plagiarism |

**Revised Syllabus of Courses of Bachelor of Management Studies (BMS)
Programme at Semester IV
with Effect from the Academic Year 2017-2018**

**Elective Courses (EC)
Group C. Human Resource Electives**

2. Training & Development in HRM

Modules at a Glance

| Sr. No. | Modules | No. of Lectures |
|----------------|---|------------------------|
| 1 | Overview of Training | 15 |
| 2 | Overview of development | 15 |
| 3 | Concept of Management development | 15 |
| 4 | Performance measurement, Talent management & Knowledge management | 15 |
| Total | | 60 |

Objectives

| SN | Objectives |
|-----------|---|
| 1 | This paper is not pure academic oriented but practice based. It has been designed, keeping in view the needs of the organizations. Successful managerial performance depends on the individual's ability to observe, interpret the issues and modify his approach and behaviour. All organizations need to pay adequate attention to equip their employees. Rapid progress in technology has changed not only in the physical facilities but also in the abstract qualities required of the men who are using them. This paper will attempt to orient the students to tailor themselves to meet the specific needs of the organizations in training and development activities. |

| Sr. No. | Modules / Units |
|---------|---|
| 1 | Overview of Training |
| | <ul style="list-style-type: none"> • Overview of training– concept, scope, importance, objectives, features, need and assessment of training. • Process of Training–Steps in Training, identification of Job Competencies, criteria for identifying Training Needs (Person Analysis, Task Analysis, Organisation Analysis), Types–On the Job &Off the Job Method. • Assessment of Training Needs, Methods & Process of Needs Assessment. • Criteria &designing-Implementation– an effective training program. |
| 2 | Overview of Development |
| | <ul style="list-style-type: none"> • Overview of development– concept, scope, importance & need and features, Human Performance Improvement • Counselling techniques with reference to development employees, society and organization. • Career development– Career development cycle, model for planned self development, succession planning. |
| 3 | Concept of Management Development |
| | <ul style="list-style-type: none"> • Concept of Management Development. • Process of MDP. • Programs &methods, importance, evaluating a MDP. |
| 4 | Performance measurement, Talent management & Knowledge management |
| | <ul style="list-style-type: none"> • Performance measurements– Appraisals, pitfalls &ethics of appraisal. • Talent management –Introduction ,Measuring Talent Management, Integration & future of TM, Global TM &knowledge management— OVERVIEW -Introduction: History, Concepts, • Knowledge Management: Definitions and the Antecedents of KM Information Management to Knowledge Management , Knowledge Management: What Is and What Is Not?, Three stages of KM, KM Life Cycle |

- Becoming a Translator: An Introduction to the Theory and Practice of Translation - by Douglas Robinson
- A Textbook of Translation - by Peter Newmark, Newmark

| |
|--|
| Syllabus Designed by: |
| <ul style="list-style-type: none"> • Gajendra Deoda (Convenor) • Smita Jain • Deepak Kumar Tiwari (Subject expert). |

| | | | |
|-----------------------|---|--|-----------------|
| 02 | | | |
| PROGRAM | BAMM | | |
| YEAR | FYBMM | | |
| SEMESTER | II | | |
| COURSE: | FOUNDATION COURSE | | |
| COURSE CODE | BAMMFC 202 | | |
| PAPER | 2 | | |
| TOTAL MARKS | 100 (75 : 25) | | |
| NO OF LECTURES | 48 | | |
| | | | |
| | SEMESTER II | | |
| COURSE CODE | COURSE NAME & DETAILED SYLLABUS | | |
| BAMMFC-202 | FOUNDATION COURSE | | |
| | | | |
| | <p>Course Outcome: 1. To introduce students to the overview of the Indian Society.</p> <ol style="list-style-type: none"> 1. To help them understand the constitution of India. 2. To acquaint them with the socio-political problems of India. | | |
| | <p>Note : Revised FC (Foundation Course) Syllabus sanctioned vide Agenda Item No. 4.49 of AC. 6.6.2012 for the B.A. Sem-1 / B.Sc. Sem-1 of University of Mumbai. The BMM BoS is unanimously decided to follow the same syllabus to BA in Multimedia and Mass Communication (BAMMC) Semester -II as it is.</p> | | |
| Module | Topics | Details | Lectures |
| 1 | Globalisation and Indian Society | Understanding the concepts of liberalization, privatization and globalization; Growth of information technology and communication and its impact manifested in everyday life; Impact of globalization on industry: changes in employment and increasing migration; Changes in agrarian sector due to globalization; rise in corporate farming and increase in farmers' suicides. | 07 |

| | | | |
|---|---|---|----|
| 2 | Human Rights | Concept of Human Rights; origin and evolution of the concept; The Universal Declaration of Human Rights; Human Rights constituents with special reference to Fundamental Rights stated in the Constitution. | 10 |
| 3 | Ecology | Importance of Environment Studies in the current developmental context; Understanding concepts of Environment, Ecology and their interconnectedness; Environment as natural capital and connection to quality of human life; Environmental Degradation- causes and impact on human life; Sustainable development- concept and components; poverty and environment. | 10 |
| 4 | Understanding Stress and Conflict | Causes of stress and conflict in individuals and society; Agents of socialization and the role played by them in developing the individual; Significance of values, ethics and prejudices in developing the individual; Stereotyping and prejudice as significant factors in causing conflicts in society. Aggression and violence as the public expression of conflict. | 10 |
| 5 | Managing Stress and Conflict in Contemporary Society | Types of conflicts and use of coping mechanisms for managing individual stress; Maslow's theory of self-actualisation; Different methods of responding to conflicts in society; Conflict-resolution and efforts towards building peace and harmony in society. | 08 |
| 6 | Contemporary Societal Challenges | <ul style="list-style-type: none"> a. Increasing urbanization, problems of housing, health and sanitation; b. Changing lifestyles and impact on culture in a globalised world. c. Farmers' suicides and agrarian distress. d. Debate regarding Genetically Modified Crops. e. Development projects and Human Rights violations. f. Increasing crime/suicides among youth. | 15 |
| Note: 15 lectures will be allotted for project guidance Unit Number 6 will not be assessed for the Semester End Exam. | | | |

| | |
|--------------------|------------------------|
| 03 | |
| PROGRAM | BAMM |
| YEAR | FYBMM |
| SEMESTER | II |
| COURSE: | CONTENT WRITING |
| COURSE CODE | BAMMCW 203 |
| PAPER | 3 |

5. Introduction to Journalism: Essential Technique Richard Rudin
6. Introduction to Journalism: Carole Fleming
7. Introduction to Journalism: James Glen Stowal

Syllabus Designed by:

1. Dr. Navita Kulkarni – Convener
2. Renu Nauriyal
3. Gajendra Deoda

| | |
|-----------------------|--|
| 06 | |
| PROGRAM | BAMM |
| YEAR | FYBMM |
| SEMESTER | II |
| COURSE: | MEDIA GENDER & CULTURE |
| COURSE CODE | BAMMMGC 206 |
| PAPER | 6 |
| TOTAL MARKS | 100 (75:25) |
| NO OF LECTURES | 48 |
| | |
| | SEMESTER II |
| COURSE CODE | COURSE NAME & DETAILED SYLLABUS |
| BAMMMGC-206 | MEDIA GENDER & CULTURE |

| COURSE OUTCOME | | | |
|---|---|--|-------------|
| <ul style="list-style-type: none"> To discuss the significance of culture and the media industry. To understand the association between the media, gender and culture in the society. To stress on the changing perspectives of media, gender and culture in the globalised era. | | | |
| MODULE | TOPICS | TOPICS | LECTURES |
| INTRODUCTION TO CULTURAL STUDIES | | | |
| I | EVOLUTION, NEED, CONCEPTS AND THEORIES | Evolution, features of cultural studies, Need and significance of cultural studies and media Concepts related to culture- Acculturation, enculturation, ethnocentrism, cultural relativism, cultural shock and its relevance in media | (12) |

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|--|---|---|-------------|
| | | <p>Theories:</p> <ul style="list-style-type: none"> • Stuart Hall : encoding and decoding, Circuit of culture • John Fiske: culture and industry • Feminism and Post feminism • Techno culture and risk – Ulrich Beck | |
| CULTURE AND MEDIA | | | |
| II | CONSTRUCTION, COMMODIFICATION, IMPACT AND RECENT TRNDS | <ol style="list-style-type: none"> 1. Construction of culture- social, economic, political, religion and technology 2. Culture, industry and media- commodification, memes, representation, articulation, popular culture, power, cyber culture 3. Media and its impact on the cultural aspect of the society. 4. Culture industry and communication - with reference, to film, TV, social media, advertisements etc., 5. Recent trends in Culture consumption: Changing values, Ideologies & its Relevance in the Contemporary society. | (12) |
| GENDER AND MEDIA CULTURE | | | |
| III | ROLE AND INFLUENCE OF MEDIA | <ol style="list-style-type: none"> 1. The influence of media on views of gender (theme, under representation, stereotypes, women and men, stereotype images, roles etc.) 2. Role of media in social construction of gender, Changing attitudes & behaviour for empowerment of women : Movements of change 3. Gender equality and media 4. Hegemonic masculinity in media 5. Gender issues in news media (TV, radio, newspapers & online news) | (12) |
| GLOBALISATION AND MEDIA CULTURE | | | |
| IV | GLOBAL, LOCAL, CONSUMER AND THE RECENT TRENDS | <ol style="list-style-type: none"> 1. Media imperialism 2. Globalisation and Local culture- Issues and Perspectives, threat to regional and local identities, Impact of global culture and its relevance in media and gender 3. Consumer culture and media in the era of globalisation. 4. Digital Media culture: Recent trends and challenges 5. Media and Globalisation: Global economic flows, global cultural flows, homogenization & fragmentation, | (12) |

| | | | |
|---|--|---|--|
| | | glocalization, creolization, globalization & power. | |
| SYLLABUS DESIGNED BY:- | | | |
| <ol style="list-style-type: none"> 1. PADMAJA ARVIND(CONVENOR) 2. RANI D'SOUZA 3. RUMINA RAI | | | |
| INTERNAL EVALUATION METHODOLOGY | | | |
| <ol style="list-style-type: none"> 6. CONTINUOUS ASSIGNMENTS 7. ORAL & PRACTICAL PRESENTATIONS 8. GROUP/INDIVIDUAL PROJECTS 9. CLASS TEST 10. OPEN BOOK TEST 11. GROUP INTERACTIONS 12. QUIZ | | | |
| REFERENCE | | | |
| <ol style="list-style-type: none"> 1. MEDIA AND CULTURAL STUDIES: MEENAKSHI GIGI DURHAM AND DOUGLAS M.KELLNER 2. CULTURAL STUDIES- THEORY AND PRACTICE – CHRIS BARKER 3. AN INTRODUCTION TO CULTURAL STUDIES- PROMOD K. NAYAR 4. CULTURE CHANGE IN INDIA- IDENITITY AND GLOBALISATION – YOGENDRA SINGH 5. INDIAN MEDIA IN A GLOBALISED WORLD- MAYA RANGANATHAN USHA M. RODRIGUES 6. MEDIA GENDER AND POPULAR CULTURE IN INDIA- TRACKING CHANGE AND CONTINIUTY – SANJUKTHE- DASGUPTA | | | |

Internal Assessment : Group Project / Individual Project / Book Review / Class Test / Case Study / Presentation {Power Point / Audio – Visual presentation / Oral Presentation)

Paper-VI
ORGANISATIONAL BEHAVIOUR
Max. Marks: 100 (Theory:50, Internals: 50)

Objectives:

- Orienting students to issues in organizational functioning
- To introduce students to the concepts given below at a preliminary level

| Topic | No. of lectures |
|---|------------------------|
| Nature of Organisation Behaviour | 04 |
| Structural Dimensions of Organisation and its Environment | 04 |
| Organisational Culture | 04 |
| Motivation | 08 |
| Motivation Theory – Application | 06 |
| Groups in organisation and Group Dynamics | 05 |
| Group Decision making | 05 |
| Power and Authority | 07 |
| Dynamics of Stress | 05 |

Internal Assessment : Group Project / Individual Project / Book Review / Class Test / Case Study / Presentation {Power Point / Audio – Visual presentation / Oral Presentation)

| SEMESTER-IV Credit-based System | | |
|--|----------------------------------|--------------------------------|
| Subject | Credits Per Paper | Marks Per Paper |
| Core Subjects: | | |
| 5. Introduction to Advertising | 03 | 100 |
| 6. Introduction to Journalism | 03 | 100 |
| 7. Radio and Television | 03 | 100 |
| 8. Print, Production and Photography | 03 | 100 |
| Allied Subjects: | | |
| 1. Organizational Behaviour | 03 | 100 |
| 2. Mass Media Research | 03 | 100 |
| Total | 18 | 600 |

| | |
|---|----|
| The Role and Functions of Journalism | 04 |
| Organization and structure of newspaper | 06 |
| Basic Journalistic writing | 08 |
| Supplements | 02 |
| Principles / Canons of Journalism | 06 |

Internal Assessment: Group Project I Individual "Project / Book Review I Class Test lease Study Presentation { Power Point I Audio – Visual presentation I Oral Presentation)

Paper-III
PRINT PRODUCTION AND PHOTOGRAPHY
Max. Marks: 100 (Theory:50, Internals: 50)

Objectives:

- To help students understand the principles and practice of photography
- To enable students to enjoy photography as an art.

| Topic | No. of lectures |
|---|------------------------|
| Basic Principles | 05 |
| Camera | 10 |
| Basic Photography | 07 |
| Colour photography | 07 |
| Concepts of composition | 08 |
| Movements in Art and photography | 06 |
| Print Production | 07 |
| Internal Assessment: Photography practicals, project submissions. | |

Paper-IV
RADIO AND TELEVISION
Max. Marks: 100 (Theory:50, Internals: 50)

Objectives:

- To introduce the basic terms and concepts of broadcasting
- To give an overview of the structure and function of the broadcast industry
- To create an awareness of the development of broadcast media and current trends

| Topic | No. of lectures |
|-----------------------------|------------------------|
| <i>Radio</i> | |
| The history of radio | 01 |
| Radio as a medium | 01 |
| Types of Radio transmission | 02 |

| | |
|--|----|
| Organizational chart - Role of Department | 02 |
| The radio programme | 03 |
| Radio and Business | |
| Ownership | 03 |
| Current trends in radio | 02 |
| <i>Television</i> | |
| The history of television. | 01 |
| The technology of television | 02 |
| Organization Chart – Roles of Departments | 04 |
| TV and Society – Impact on Society | 06 |
| TV as a means of edutainment and information | 05 |
| TV and Business | |
| Ownership | |

Internal Assessment: Radio/TV – script or programme or ads, assignments.

Paper-V
MASS MEDIA RESEARCH
Max. Marks: 100 (Theory:50, Internals: 50)

Objectives:

- To introduce students to debates in Research approaches and equip them with tools to carry on research
- To understand the scope and techniques of media research, their utility and limitations

| Topic | No. of lectures |
|--|------------------------|
| <i>Section-I</i> | |
| Introduction to Research concepts | 04 |
| Steps in conducting research – I | 09 |
| Steps in conducting research – II | 09 |
| Steps in conducting research - III | 06 |
| Statistical procedure - Mean, median, mode, standard deviation and co-relation | 10 |
| <i>Section-II</i> | |
| Application of research in mass media | |
| Content analysis - Definition and uses, steps, limitations | 03 |
| Research in print media | 02 |
| Research in Advertising | 02 |
| Research in Public Relations | 02 |
| Mass media Research and the Internet | 02 |
| Research in Media Effects | 02 |

**SEMESTER-VI
ADVERTISING**

**Paper-I
ADVERTISING AND MARKETING RESEARCH
Max. Marks: 100 (Theory:50, Internals: 50)**

Objectives:

- To discuss the foundations of research and audience analysis that is imperative to successful advertising.

| Topic | No. of lectures |
|---|------------------------|
| Fundamental of marketing research | 05 |
| Product Research | 08 |
| Copy research | 08 |
| Copy testing measures and methods | 05 |
| Print pretesting | 01 |
| Broadcast pretesting | 03 |
| Projective techniques | 02 |
| Physiological rating scales | 02 |
| Challenges to pre-testing. E.g. The halo effect | 01 |
| Post testing | 06 |

**Paper-II
LEGAL ENVIRONMENT AND ADVERTISING ETHICS
Max. Marks: 100 (Theory:50, Internals: 50)**

Objectives:

- To provide a perspective on the Legal Environment in India.
- To guide students of media through the various ethics connected to Advertising.
- Maharashtra state centric cases to be discussed in class as the situation demands.

| Topic | No. of lectures |
|--|------------------------|
| Legal Environment | 06 |
| Self-Regulation, Ethics and the Law | 04 |
| Laws that affect Advertising in India | 08 |
| Ethics | 08 |
| Unfair Trade Practices and the Competition Act | 04 |
| Consumer Rights and Laws | 08 |
| Advertising and Society | 04 |
| Critique of Advertising | 06 |

Paper-III
FINANCIAL MANAGEMENT FOR MARKETING AND ADVERTISING

Max. Marks: 100 (Theory:50, Internals: 50)

| Topic | No. of lectures |
|---|------------------------|
| Introduction to Marketing and Advertising Finance | 12 |
| Long Term Finance -Sources of Long Term Finance | 10 |
| Short Term Finance | 04 |
| Financial Statements | 12 |
| Marketing Costs | 12 |

Paper-IV
AGENCY MANAGEMENT

Max. Marks: 100 (Theory:50, Internals: 50)

Objectives:

- To expose students to the business of advertising
- To familiarize students with the different aspects of running an ad agency

| Topic | No. of lectures |
|---|------------------------|
| Structure of an ad agency, functions of different departments, types of ad agency | 05 |
| Client Servicing | 10 |
| Marketing plan of the client | 08 |
| Agency Finances | 07 |
| Client's evaluation of the agency | 03 |
| Setting up an Agency | 07 |
| Growing the Agency | 05 |
| Sales Promotion Management | 05 |

Paper-V
THE PRINCIPLES AND PRACTICE OF DIRECT MARKETING

Max. Marks: 100 (Theory:50, Internals: 50)

Objectives:

To learn and understand :

- What Direct marketing is, including direct marketing terminology
- How direct marketing differs from “traditional marketing”
- Direct marketing techniques

| Topic | No. of lectures |
|---|------------------------|
| Definition and importance of direct marketing | 02 |
| Economics of direct marketing | 02 |
| Growing importance of Direct marketing in IMC mix | 01 |
| Understanding the DM business | 08 |

| | |
|--|----|
| Direct marketing strategies | 08 |
| Direct marketing concepts | 08 |
| Various direct marketing methods and media | 05 |
| Future of direct marketing current and future Scenario | 05 |
| Customer relationship management | 06 |

Paper-VI
CONTEMPORARY ISSUES
Max. Marks: 100 (Theory:50, Internals: 50)

Objectives:

- To sensitise students to the environment around them
- Developing a perspective towards issues related to the marginalized sections of the society

| Topic | No. of lectures |
|---|------------------------|
| I Ecological system, services and Economics of Environmental Protection | 12 |
| II Concepts of human rights and civil liberties | 12 |
| III Regional issues – Economics, Social, Political | 12 |
| IV Sugar Lobby, operation Flood, Terrorism, tribal Movement, etc. | 12 |

| SEMESTER-VI (Advertising) Credit-based System | | |
|---|----------------------------------|--------------------------------|
| Subject | Credits Per Paper | Marks Per Paper |
| Specialisation Subjects: | | |
| 1. Financial Management for Marketing and Advertising | 04 | 100 |
| 2. Contemporary Issues | 04 | 100 |
| 3. Agency Management | 04 | 100 |
| 4. Advertising and Marketing Research | 04 | 100 |
| 5. Legal Environment and Advertising Ethics (Law) | 04 | 100 |
| 6. Principles and Practice of Direct Marketing | 04 | 100 |
| Total | 24 | 600 |

Internal Assessment / Evaluation:

Each paper comprises of 50 marks of internal evaluation. For Internal (continuous) assessment, a teacher may select a variety of procedures for evaluation (depending upon the requirement of the subject):

- Mid Term Test;
- Short Quizzes;
- Objective test
- Written Assignments;

| SEMESTER VI-JOURNALISM | | |
|------------------------|-----------------|---|
| COURSE CODE | CREDITS | COURSE NAME |
| COMPULSORY-CORE | 04X2=08 | DRG(DISCIPLINE RELATED GENERIC) |
| BAMMC DRG-601 | 04 | 1. DIGITAL MEDIA |
| BAMMC DRG-602 | 04 | 2. NEWSPAPER and MAGAZINE DESIGN (PROJECT) |
| ELECTIVES- | 03X04=12 | DSE 2 B (DISCIPLINE SPECIFIC ELECTIVES) (LEARNER SHOULD ELECT ANY FOUR OF THE COURSES) |
| BAMMC EJCI2B601 | | 1. CONTEMPORARY ISSUES |
| BAMMC EJLJ2B602 | | 2. LIFESTYLE JOURNALISM |
| BAMMC EJPT2B603 | | 3. PHOTO and TRAVEL JOURNALISM |
| BAMMC EJMJ 2B6504 | | 4. MAGAZINE JOURNALISM |
| BAMMC EJSJ 2B605 | | 5. SPORTS JOURNALISM |
| BAMMC EJCR 2B606 | | 6. CRIME REPORTING |
| BAMMC EJFN 2B607 | | 7. FAKE NEWS and FACT CHECKING |
| BAMMC EJ TJ 2B608 | | 8. TELEVISION JOURNALISM |
| | 20 | |

| COMPULSORY-CORE 01 | |
|--------------------|--------------------|
| PROGRAM | BAMMC |
| YEAR | TYBAMMC-JOURNALISM |
| SEMESTER | VI |
| COURSE: | DIGITAL MEDIA |
| COURSE CODE | BAMMC DRG-601 |
| PAPER | DRG 1 (COMPULSORY) |
| TOTAL MARKS | 100 (75:25) |
| NO OF LECTURES | 48 |

| SEMESTER VI | | | |
|--|-----------------------------------|---|----------|
| COURSE CODE | COURSE NAME and DETAILED SYLLABUS | | |
| BAMMC DRG-601 | DIGITAL MEDIA | | |
| Course Outcome: | | | |
| <ul style="list-style-type: none"> Understand digital marketing platform Understand the key goals and stages of digital campaigns Understand the of use key digital marketing tools Learn to develop digital marketing plans | | | |
| Module | Topic | Details | Lectures |
| Module I | Introduction to Digital Marketing | a. Understanding Digital Media b. Advantages of Digital Media c. Principles of Digital Media Marketing d. Key Concepts in Digital media e. Traditional Vs Digital Media | 4 |
| Module II | Search Engine Optimization | a. How search Engine works b. Introduction to SEO | 8 |

| | | | |
|--------------------|--|--|----|
| | (SEO): | <ul style="list-style-type: none"> c. On Page Optimization d. Off Page Optimization e. SEO Audit, Tools and Measurement f. SEO Resources, Careers in SEO | |
| Module III | Search Engine marketing (SEM) | <ul style="list-style-type: none"> a. What is SEM? b. Why SEM c. What is Google Adwords? Why Google Adwords d. Google network e. Adwords terminologies f. Campaign types g. Creation of Google Display NETWORK (GDN) h. Display Ads format i. Conversion tracking j. GDN Campaign creation (DEMO) k. Remarketing l. What are Google shopping Ads | 8 |
| Module IV | Social Media Marketing (SMM) | <ul style="list-style-type: none"> a. Introduction to Social Media b. Facebook Marketing c. Instagram Marketing d. LinkedIn Marketing e. Twitter Marketing f. SMM Tools g. Creating a successful social media strategy | 08 |
| Module V | Email marketing | <ul style="list-style-type: none"> 1. key terms and concepts 2. Customer acquisition strategies 3. Best Practices: CRABS 4. Tools to enhance lead nurturing 5. Enhance better reach | 3 |
| Module VI | Web Analytics | <ul style="list-style-type: none"> a. Introduction to analytics b. Social CRM and analysis c. Google analytics d. Digital Analytics e. Content performance analytics f. Visitor analysis g. Social media analytics | 6 |
| Module VII | Affiliate Marketing and Programmatic Marketing | <ul style="list-style-type: none"> a. Affiliate Marketing b. Definition, Purpose, Resources required, Top Players in Affiliate Marketing, Segregation of Affiliate marketing c. Programmatic Marketing d. Evolution and growth of programmatic Marketing e. Real Time bidding, f. Types of Programmatic Advertising, Advantages and Challenges, Myths of Programmatic Marketing | 3 |
| Module VIII | Content writing | <ul style="list-style-type: none"> a. Intro to content writing b. Core Principles of Content writing c. Why blogs matter d. Principles of writing blogs e. How to write content for twitter and Mobile | 6 |
| Module IX | Cyber laws | <ul style="list-style-type: none"> a. Information Technology Act b. Copyright Act | 2 |

| SEMESTER VI | | | |
|---|--|---|-----------------|
| COURSE CODE | | COURSE NAME and DETAILED SYLLABUS | |
| BAMMC EJCI2B601 | | CONTEMPORARY ISSUES | |
| COURSE OUTCOME | | | |
| <ul style="list-style-type: none"> To stress the importance of social economic political aspects of the society as a media professional. To understand the role of media as a strategy to create awareness on various issues and mobilise to bring social progress. | | | |
| MODULE | TOPICS | DETAILS | LECTURES |
| SOCIAL MOVEMENTS | | | |
| I | SOCIAL MOVEMENTS AND PROGRESS FOR SOCIETY | <ul style="list-style-type: none"> Define Social Movements, Elements, Types and Stages of Social Movements. Social Movements with reference to Tribal, Women, Farmers, Untouchability, Cultural, Environmental (with special reference to “Swatch Bharat Abhiyaan”) Developmental issues- displacement and rehabilitation. | (12) |
| GROWTH AND DEVELOPMENT | | | |
| II | ECONOMIC GROWTH AND DEVELOPMENT | <ul style="list-style-type: none"> Economic issues in India. Industry and Economic Growth – Factors, challenges, industrial robots and employment, Agriculture and economic development- Factors, challenges and measures. New age skills – Make in India, trends and challenges. Entrepreneurship and its relevance. Tourism-trends and challenges Regional aspects- Role of MIDC in economic development of Maharashtra, Special Economic Zone, Food Security Act’2013 | (14) |
| POLITICS | | | |
| III | POLITICS AND SOCIETY | <ul style="list-style-type: none"> Crime and Politics Role of whistle blower Corruption- causes and remedial measures Role of political parties and its impact on political system. Changing trends in politics- Functions, features, agendas, majority vs coalition government. Terrorism – causes, consequences, remedial measures. | (12) |
| SOCIAL WELFARE SCHEMES | | | |
| IV | SOCIAL WELFARE SCHEMES BY THE GOVERNMENT OF INDIA | <ul style="list-style-type: none"> With reference to women and child (any five) Commerce and Industry (start-up India hub, scheme for IPR-creative India and innovative India. | (10) |

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|---|--|---|--|
| | | <ul style="list-style-type: none"> • Smart Cities, skill to save life, save a life initiative, national strategic plan and mission (2017-2024) "SAMPARK". • Rural (any three Schemes) | |
| BOS SYLLABUS COMMITTEE MEMBERS | | | |
| <ol style="list-style-type: none"> 1. DR. PADMAJA ARVIND (CONVENER) 2. PROF. RANI D'SOUZA (Subject Expert) 3. PROF. RUMINA RAI (Subject Expert) | | | |
| INTERNAL EVALUATION METHODOLOGY | | | |
| <ol style="list-style-type: none"> 1. Continuous Assignments 2. Oral And Practical Presentations 3. Group/Individual Projects 4. Open Book Test 5. Group Interactions 6. Quiz | | | |

| |
|---|
| <p>REFERENCES</p> <ol style="list-style-type: none"> 1. Rush Ramona, Oukrop Carole, Creedon Pamola (2013), 'Seeking equity for women in Journalism and Mass Communication education: A 30 year Update', Taylor and Francis 2. Coleman Benjamin: Conflict, Terrorism and Media in Asia 3. Ranganathan Maya; Rodrigues Usha: (2010) Indian media in a Globalised World, Sag Publications 4. Humphries Drew (Ed), (2009), Women, Violence and Media: readings from feminist Criminology, UPNE. 5. Berns Nancy, Framing the Victim: Domestic Violence, Media, and Social Problems, Transaction Publishers. 6. Bareh Hamlet, (2001), Encyclopedia of North-East India: Assam, Mitthal Publications. 7. Freedman Des, Thussu Daya; (2011), Media and Terrorism: Global Perspectives, Sage Publications 8. Media and Gender in Post-Liberalisation India, Frank and Timmy GmbH Publication (Pg 19-45) 9. Talwar Rajesh, (2013), Courting Injustice: The Nirbhaya Case and Its Aftermath, Hay House Inc. 10. Praveen Swami (2007) An Informal War: India, Pakistan and the Secret Jihad in Jammu and Kashmir London: <u>Routledge</u>. 11. Kak Manju, Tripathy Prajnashree, Lal Manjula; (2007), Whose Media? a Woman's Space: The Role of the Press in Projecting the development needs of Women, Concept Publishing House. 12. Uma Kapila (ed) (2013) Indian Economy: performance and policies, 14th edition Academic Foundation. 13. V. K Puri and S.K Misra (ed) (2013) Indian Economy, 31st edition. Himalaya Pub House. 14. Asha Bajpai, (2011) Child Rights in India: Law, policy, and practice. 15. Dr. B Ramaswamy and Nitin Shrirang Mane, (2013) Human Rights: Principles and practices, Alfa Publication. 16. R P Kataria and Salah Uddin (2013) Commentary on Human Rights Orient Publishing Company. 17. J. Shivanand, Human Rights: Concepts and Issues, 18. Ram Ahuja, (2012), Indian social Problems, Rawat Publications. 19. Ghanashyam Shah, (2011) Social Movements in India, Sage Publications. 20. A.R Desai, Rural Sociology. |
|---|

- Book By Mark Shaw
4. The Adweek Copywriting Handbook: The Ultimate Guide To Writing Powerful Advertising And Marketing Copy From One Of America'S Top Copywriters Paperback – By Joseph Sugarman
 5. The Copywriter's Handbook: A Step-By-Step Guide To Writing Copy That Sells Book By Robert Bly
 6. Hey, Whipple, Squeeze This: The Classic Guide To Creating Great Ads
 7. By Luke Words That Sell: More Than 6000 Entries To Help You Promote Your Products, Services, And Ideas Paperback – By Richard Bayan Sullivan , Sam Bennett , Edward Boches

| | |
|-----------------------|---|
| COMPULSORY 02 | |
| PROGRAM | BAMMC |
| YEAR | TYBAMMC -ADVERTISING |
| SEMESTER | V |
| COURSE: | ADVERTISING & MARKETING RESEARCH |
| COURSE CODE | BAMMC DRGA-502 |
| PAPER | DRGA (COMPULSORY) |
| TOTAL MARKS | 100 (75:25) |
| NO OF LECTURES | 48 |

| SEMESTER V | | | |
|--|--------------------------|--|-----------------|
| COURSE CODE | | COURSE NAME & DETAILED SYLLABUS | |
| BAMMC DRGA-502 | | ADVERTISING & MARKETING RESEARCH | |
| COURSE OUTCOME: | | | |
| <ol style="list-style-type: none"> 1. The course is designed to inculcate the analytical abilities and research skills among the students. 2. To understand research methodologies – Qualitative Vs Quantitative 3. To discuss the foundations of Research and audience analysis that is imperative to successful advertising. 4. To understand the scope and techniques of Advertising and Marketing research, and their utility. | | | |
| MODULE | | DETAILS | LECTURES |
| I | Fundamentals of Research | <ol style="list-style-type: none"> 1. What is Literature review 2. Statement of the problem 3. Aims and objectives' of the study 4. Relevant Research questions | 02 |
| 2 | Research design | <ol style="list-style-type: none"> 1. Meaning, Definition, Need and Importance, 2. Scope of Research Design 3. 2. Types- Descriptive, Exploratory and Causal. | 03 |
| 3 | Preparing Questionnaire | <ol style="list-style-type: none"> 1. Survey instruments 2. Designing the questioning using projective 3. technique for Qualitative research 4. Designing the Questionnaire using attitude 5. measuring scale for Quantitative research | 03 |

| | | | |
|---|--|---|-----------|
| 4 | Sampling | <ol style="list-style-type: none"> 1. Meaning of Sample and Sampling, 2. Process of Sampling 3. Methods of Sampling: Non Probability Sampling – Convenient, Judgment, Quota, Snow Ball, Probability Sampling – Simple Random, systematic, Stratified, Cluster, Multi Stage. | 06 |
| 5 | Preparing data sheet and data processing | Preparation of data sheet in excels format and rearranging the data as per the requirement of the Statistical software such as SPSS and the statistical tool. | 03 |
| 6 | Data Analysis | Data collected are to be presented and analyzed. Students will have to choose the methods that best Suite the data collected. Data could be presented using tables, pie charts, bar charts, histogram etc. Data presented should be accompanied with the interpretation of the associations and relationships Among the data groups with the appropriate implication to the study or the unit of study. The summary of interpretation should provide answers to the research Questions. | 03 |
| 7 | Methods of Data Analysis | The interpretations based on Descriptive statistics should include mode, mean, median, Range, Variance, Standard deviation, Kurtosis, and Skewness. Any of the following multivariate analysis may be used such as Regression, Correlation, t test, factor analysis and discriminant analysis | 04 |
| 8 | Report Writing | <p>FORMAT OF RESEARCH REPORTS</p> <p>The research report shall have the following Components.</p> <ol style="list-style-type: none"> 1. Title page 2. Index 3. Introduction and Research objective 4. Industry Overview 5. Literature Review 6. Statement of the Problem 7. Statement of Hypothesis (Min two hypothesis) 8. Research Methodology and Research Design 9. Data Analysis and Interpretations 10. Findings 11. Conclusion 12. Suggestions 13. Annexure (questionnaires) 14. Bibliography | 06 |
| 9 | Advertising Research | <ol style="list-style-type: none"> 1. Introduction to Advertising Research 2. Copy Research: a. Concept testing, b. Name testing, c. Slogan testing 4. Copy testing measures and methods: a. Free association, b. Direct questioning, c. Direct 5. Mail tests, d. Statement comparison tests, e. | 10 |

Textbook:

1. Calculus: Early transcendental (10th Edition): Howard Anton, Irl Bivens, Stephen Davis, John Wiley & sons, 2012.

Additional References:

1. Calculus and analytic geometry (9th edition): George B Thomas, Ross L Finney, Addison Wesley, 1995
2. Calculus: Early Transcendentals (8th Edition): James Stewart, Brooks Cole, 2015.
3. Calculus (10th Edition): Ron Larson, Bruce H. Edwards, Cengage Learning, 2013.
4. Thomas' Calculus (13th Edition): George B. Thomas, Maurice D. Weir, Joel R. Hass, Pearson, 2014.

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| Course: USCS206 | Statistical Methods and Testing of Hypothesis (Credits : 2 Lectures/Week: 3) | |
| Objectives: The purpose of this course is to familiarize students with basics of Statistics. This will be essential for prospective researchers and professionals to know these basics. | | |
| Expected Learning Outcomes: 1) Enable learners to know descriptive statistical concepts 2) Enable study of probability concept required for Computer learners | | |
| Unit I | Standard distributions: random variable; discrete, continuous, expectation and variance of a random variable, pmf, pdf, cdf, reliability, Introduction and properties without proof for following distributions; binomial, normal, chi-square, t, F. Examples | 15L |
| Unit II | Hypothesis testing: one sided, two sided hypothesis, critical region, p-value, tests based on t, Normal and F, confidence intervals. Analysis of variance : one-way, two-way analysis of variance | 15L |
| Unit III | Non-parametric tests: need of non-parametric tests, sign test, Wilcoxon's signed rank test, run test, Kruskal-Walis tests. Post-hoc analysis of one-way analysis of variance : Duncan's test Chi-square test of association | 15L |
| Text Book: 1. Trivedi, K.S.(2009) : Probability, Statistics, Design of Experiments and Queuing theory, with applications of Computer Science, Prentice Hall of India, New Delhi | | |
| Additional References: 1. Ross, S.M. (2006): A First course in probability. 6 th Ed ⁿ Pearson 2. Kulkarni, M.B., Ghatpande, S.B. and Gore, S.D. (1999): Common statistical tests. Satyajeet Prakashan, Pune 3. Gupta, S.C. and Kapoor, V.K. (2002) : Fundamentals of Mathematical Statistics, S. Chand and Sons, New Delhi 4. Gupta, S.C. and Kapoor, V.K. (4 th Edition) : Applied Statistics, S. Chand and Son's, New Delhi 5. Montgomery, D.C. (2001): Planning and Analysis of Experiments, Wiley. | | |

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| Course: USCS207 | Green Technologies (Credits : 2 Lectures/Week: 3) | |
| Objectives: To familiarize with the concept of Green Computing and Green IT infrastructure for making computing and information system environment sustainable. Encouraging optimized software and hardware designs for development of Green IT Storage, Communication and Services. To highlight useful approaches to embrace green IT initiatives. | | |

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| <p>Expected Learning Outcomes:</p> <ol style="list-style-type: none"> 1) Learn about green IT can be achieved in and by hardware, software, network communication and data center operations. 2) Understand the strategies, frameworks, processes and management of green IT | | |
| Unit I | <p>Green IT Overview: Introduction , Environmental Concerns and Sustainable Development, Environmental Impacts of IT, Green I , Holistic Approach to Greening IT, Greening IT, Applying IT for Enhancing Environmental Sustainability, Green IT Standards and Eco-Labeling of IT , Enterprise Green IT Strategy, Green Washing, Green IT: Burden or Opportunity?</p> <p>Green Devices and Hardware: Introduction , Life Cycle of a Device or Hardware, Reuse, Recycle and Dispose</p> <p>Green Software: Introduction , Processor Power States , Energy-Saving Software Techniques, Evaluating and Measuring Software Impact to Platform Power</p> <p>Sustainable Software Development: Introduction, Current Practices, Sustainable Software, Software Sustainability Attributes, Software Sustainability Metrics, Sustainable Software Methodology, Defining Actions</p> | 15L |
| Unit II | <p>Green Data Centres: Data Centres and Associated Energy Challenges, Data Centre IT Infrastructure, Data Centre Facility Infrastructure: Implications for Energy Efficiency, IT Infrastructure Management, Green Data Centre Metrics</p> <p>Green Data Storage: Introduction , Storage Media Power Characteristics, Energy Management Techniques for Hard Disks, System-Level Energy Management</p> <p>Green Networks and Communications: Introduction, Objectives of Green Network Protocols, Green Network Protocols and Standards</p> <p>Enterprise Green IT Strategy: Introduction, Approaching Green IT Strategies, Business Drivers of Green IT Strategy, Business Dimensions for Green IT Transformation, Organizational Considerations in a Green IT Strategy, Steps in Developing a Green IT Strategy, Metrics and Measurements in Green Strategies.</p> | 15L |
| Unit III | <p>Sustainable Information Systems and Green Metrics: Introduction, Multilevel Sustainable Information, Sustainability Hierarchy Models, Product Level Information, Individual Level Information, Functional Level Information, Organizational Level Information, Measuring the Maturity of Sustainable ICT</p> <p>Enterprise Green IT Readiness: Introduction, Readiness and Capability, Development of the G-Readiness Framework, Measuring an Organization's G-Readiness</p> <p>Sustainable IT Services: Creating a Framework for Service Innovation: Introduction, Factors Driving the Development of Sustainable IT, Sustainable IT Services (SITS), SITS Strategic Framework</p> <p>Green Enterprises and the Role of IT: Introduction, Organizational and Enterprise Greening, Information Systems in Greening Enterprises, Greening the Enterprise: IT Usage and Hardware, Inter-organizational Enterprise Activities and Green Issues</p> | 15L |
| <p>Text book:</p> <ol style="list-style-type: none"> 1) <i>Harnessing Green IT: Principles and Practices</i>, San Murugesan, G. R. Ganadharan, Wiley & IEEE. <p>Additional References:</p> <ol style="list-style-type: none"> 1) <i>Green IT</i>, Deepak Shikarpur, Vishwkarma Publications, 2014 2) <i>Green Communications: Principles, Concepts and Practice</i>- Samdanis et al, J. Wiley 3) <i>Green IT for Sustainable Business Practice: An ISEB Foundation Guide</i>, Mark G. O'Neill, The Chartered Institute for IT, 2010 | | |

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| Course: USCS607 | TOPICS (Credits : 02 Lectures/Week: 03) Ethical Hacking | |
| Objectives: To understand the ethics, legality, methodologies and techniques of hacking. Expected Learning Outcomes: Learner will know to identify security vulnerabilities and weaknesses in the target applications. They will also know to test and exploit systems using various tools and understand the impact of hacking in real time machines. | | |
| Unit I | Information Security : Attacks and Vulnerabilities Introduction to information security : Asset, Access Control, CIA, Authentication, Authorization, Risk, Threat, Vulnerability, Attack, Attack Surface, Malware, Security-Functionality-Ease of Use Triangle Types of malware : Worms, viruses, Trojans, Spyware, Rootkits Types of vulnerabilities : OWASP Top 10 : cross-site scripting (XSS), cross site request forgery (CSRF/XSRF), SQL injection, input parameter manipulation, broken authentication, sensitive information disclosure, XML External Entities, Broken access control, Security Misconfiguration, Using components with known vulnerabilities, Insufficient Logging and monitoring, OWASP Mobile Top 10, CVE Database Types of attacks and their common prevention mechanisms : Keystroke Logging, Denial of Service (DoS /DDoS), Waterhole attack, brute force, phishing and fake WAP, Eavesdropping, Man-in-the-middle, Session Hijacking, Clickjacking, Cookie Theft, URL Obfuscation, buffer overflow, DNS poisoning, ARP poisoning, Identity Theft, IoT Attacks, BOTs and BOTNETs Case-studies : Recent attacks – Yahoo, Adult Friend Finder, eBay, Equifax, WannaCry, Target Stores, Uber, JP Morgan Chase, Bad Rabbit | 15L |
| Unit II | Ethical Hacking – I (Introduction and pre-attack) Introduction: Black Hat vs. Gray Hat vs. White Hat (Ethical) hacking, Why is Ethical hacking needed?, How is Ethical hacking different from security auditing and digital forensics?, Signing NDA, Compliance and Regulatory | 15L |

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| | <p>concerns, Black box vs. White box vs. Black box, Vulnerability assessment and Penetration Testing.</p> <p>Approach : Planning - Threat Modeling, set up security verification standards, Set up security testing plan – When, which systems/apps, understanding functionality, black/gray/white, authenticated vs. unauthenticated, internal vs. external PT, Information gathering, Perform Manual and automated (Tools: WebInspect/Qualys, Nessus, Proxies, Metasploit) VA and PT, How WebInspect/Qualys tools work: Crawling/Spidering, requests forging, pattern matching to known vulnerability database and Analyzing results, Preparing report, Fixing security gaps following the report</p> <p>Enterprise strategy : Repeated PT, approval by security testing team, Continuous Application Security Testing,</p> <p>Phases: Reconnaissance/foot-printing/Enumeration, Phases: Scanning, Sniffing</p> | |
| <p>Unit III</p> | <p>Ethical Hacking :Enterprise Security</p> <p>Phases : Gaining and Maintaining Access : Systems hacking – Windows and Linux – Metasploit and Kali Linux, Keylogging, Buffer Overflows, Privilege Escalation, Network hacking - ARP Poisoning, Password Cracking, WEP Vulnerabilities, MAC Spoofing, MAC Flooding, IPSpoofing, SYN Flooding, Smurf attack, Applications hacking : SMTP/Email-based attacks, VOIP vulnerabilities, Directory traversal, Input Manipulation, Brute force attack, Unsecured login mechanisms, SQL injection, XSS, Mobile apps security, Malware analysis : Netcat Trojan, wrapping definition, reverse engineering</p> <p>Phases : Covering your tracks : Steganography, Event Logs alteration</p> <p>Additional Security Mechanisms : IDS/IPS, Honeypots and evasion techniques, Secure Code Reviews (Fortify tool, OWASP Secure Coding Guidelines)</p> | <p>15L</p> |
| <p>Textbook(s):</p> <ol style="list-style-type: none"> 1) Certified Ethical Hacker Study Guide v9, Sean-Philip Oriyano, Sybex; Study Guide Edition,2016 2) CEH official Certified Ethical Hacking Review Guide, Wiley India Edition, 2007 <p>Additional Reference(s):</p> | | |

Textbook(s):

- 1) Mastering Cloud Computing, Rajkumar Buyya, Christian Vecchiola, S Thamarai Selvi, Tata McGraw Hill Education Private Limited, 2013
- 2) OpenStack in Action, V. K. CODY BUMGARDNER, Manning Publications Co, 2016

Additional Reference(s):

- 1) OpenStack Essentials, Dan Radez, PACKT Publishing, 2015
- 2) OpenStack Operations Guide, Tom Fifield, Diane Fleming, Anne Gentle, Lorin Hochstein, Jonathan Proulx, Everett Toews, and Joe Topjian, O'Reilly Media, Inc., 2014
- 3) <https://www.openstack.org>

Course:**TOPICS (Credits :03 Lectures/Week:03)****USCS603****Cyber Forensics****Objectives:**

To understand the procedures for identification, preservation, and extraction of electronic evidence, auditing and investigation of network and host system intrusions, analysis and documentation of information gathered

Expected Learning Outcomes :

The student will be able to plan and prepare for all stages of an investigation - detection, initial response and management interaction, investigate various media to collect evidence, report them in a way that would be acceptable in the court of law.

Unit I**Computer Forensics :**

Introduction to Computer Forensics and standard procedure, Incident Verification and System Identification ,Recovery of Erased and damaged data, Disk Imaging and Preservation, Data Encryption and Compression, Automated Search Techniques, Forensics Software

Network Forensic :

Introduction to Network Forensics and tracking network traffic, Reviewing Network Logs, Network Forensics Tools, Performing Live Acquisitions, Order of Volatility, Standard Procedure

Cell Phone and Mobile Device Forensics: Overview, Acquisition Procedures for Cell Phones and Mobile Devices

15L

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| <p>Unit II</p> | <p>Internet Forensic : Introduction to Internet Forensics, World Wide Web Threats, Hacking and Illegal access, Obscene and Incident transmission, Domain Name Ownership Investigation, Reconstructing past internet activities and events E-mail Forensics : e-mail analysis, e-mail headers and spoofing, Laws against e-mail Crime, Messenger Forensics: Yahoo Messenger Social Media Forensics: Social Media Investigations Browser Forensics: Cookie Storage and Analysis, Analyzing Cache and temporary internet files, Web browsing activity reconstruction</p> | <p>15L</p> |
| <p>Unit III</p> | <p>Investigation, Evidence presentation and Legal aspects of Digital Forensics: Authorization to collect the evidence , Acquisition of Evidence, Authentication of the evidence, Analysis of the evidence, Reporting on the findings, Testimony Introduction to Legal aspects of Digital Forensics: Laws & regulations, Information Technology Act, Giving Evidence in court, Case Study – Cyber Crime cases, Case Study – Cyber Crime cases</p> | <p>15L</p> |

Textbook(s):

1. Guide to computer forensics and investigations, Bill Nelson, Amelia Philips and Christopher Steuart, course technology,5th Edition,2015

Additional Reference(s):

2. Incident Response and computer forensics, Kevin Mandia, Chris Prosis, Tata McGrawHill,2nd Edition,2003

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| <p>Course: USCS604</p> | <p>TOPICS (Credits : 03 Lectures/Week: 03) Information Retrieval</p> | |
| <p>Objectives: To provide an overview of the important issues in classical and web information retrieval. The focus is to give an up-to- date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents and of methods for evaluating systems.</p> <p>Expected Learning Outcomes:</p> | | |

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| B. Sc. (Information Technology) | | Semester – II | |
| Course Name: Green Computing | | Course Code: USIT205 | |
| Periods per week (1 Period is 50 minutes) | | 5 | |
| Credits | | 2 | |
| | | Hours | Marks |
| Evaluation System | Theory Examination | 2½ | 75 |
| | Internal | -- | 25 |

| Unit | Details | Lectures |
|-------------|---|-----------------|
| I | <p>Overview and Issues: Problems: Toxins, Power Consumption, Equipment Disposal, Company's Carbon Footprint: Measuring, Details, reasons to bother, Plan for the Future, Cost Savings: Hardware, Power.</p> <p>Initiatives and Standards: Global Initiatives: United Nations, Basel Action Network, Basel Convention, North America: The United States, Canada, Australia, Europe, WEEE Directive, RoHS, National Adoption, Asia: Japan, China, Korea.</p> | 12 |
| II | <p>Minimizing Power Usage: Power Problems, Monitoring Power Usage, Servers, Low-Cost Options, Reducing Power Use, Data De-Duplication, Virtualization, Management, Bigger Drives, Involving the Utility Company, Low-Power Computers, PCs, Linux, Components, Servers, Computer Settings, Storage, Monitors, Power Supplies, Wireless Devices, Software.</p> <p>Cooling: Cooling Costs, Power Cost, Causes of Cost, Calculating Cooling Needs, Reducing Cooling Costs, Economizers, On-Demand Cooling, HP's Solution, Optimizing Airflow, Hot Aisle/Cold Aisle, Raised Floors, Cable Management, Vapour Seal, Prevent Recirculation of Equipment Exhaust, Supply Air Directly to Heat Sources, Fans, Humidity, Adding Cooling, Fluid Considerations, System Design, Datacentre Design, Centralized Control, Design for Your Needs, Put Everything Together.</p> | 12 |
| III | <p>Changing the Way of Work: Old Behaviours, starting at the Top, Process Reengineering with Green in Mind, Analysing the Global Impact of Local Actions, Steps: Water, Recycling, Energy, Pollutants, Teleworkers and Outsourcing, Telecommuting, Outsourcing, how to Outsource.</p> <p>Going Paperless: Paper Problems, The Environment, Costs: Paper and Office, Practicality, Storage, Destruction, Going Paperless, Organizational Realities, Changing Over, Paperless Billing, Handheld Computers vs. the Clipboard, Unified Communications, Intranets, What to Include, Building an Intranet, Microsoft Office SharePoint Server 2007, Electronic Data Interchange (EDI), Nuts and Bolts, Value Added Networks, Advantages, Obstacles.</p> | 12 |

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| IV | <p>Recycling: Problems, China, Africa, Materials, Means of Disposal, Recycling, Refurbishing, Make the Decision, Life Cycle, from beginning to end, Life, Cost, Green Design, Recycling Companies, Finding the Best One, Checklist, Certifications, Hard Drive Recycling, Consequences, cleaning a Hard Drive, Pros and cons of each method, CDs and DVDs, good and bad about CD and DVDs disposal, Change the mind-set, David vs. America Online</p> <p>Hardware Considerations: Certification Programs, EPEAT, RoHS, Energy Star, Computers, Monitors, Printers, Scanners, All-in-Ones, Thin Clients, Servers, Blade Servers, Consolidation, Products, Hardware Considerations, Planned Obsolescence, Packaging, Toxins, Other Factors, Remote Desktop, Using Remote Desktop, Establishing a Connection, In Practice</p> | 12 |
| V | <p>Greening Your Information Systems: Initial Improvement Calculations, Selecting Metrics, Tracking Progress, Change Business Processes, Customer Interaction, Paper Reduction, Green Supply Chain, Improve Technology Infrastructure, Reduce PCs and Servers, Shared Services, Hardware Costs, Cooling.</p> <p>Staying Green: Organizational Check-ups, Chief Green Officer, Evolution, Sell the CEO, SMART Goals, Equipment Check-ups, Gather Data, Tracking the data, Baseline Data, Benchmarking, Analyse Data, Conduct Audits, Certifications, Benefits, Realities, Helpful Organizations.</p> | 12 |

| Books and References: | | | | | |
|------------------------------|---|--|---|----------------|-------------|
| Sr. No. | Title | Author/s | Publisher | Edition | Year |
| 1. | Green IT | Toby Velte, Anthony Velte, Robert Elsenpeter | McGraw Hill | | 2008 |
| 2. | Green Data Center: Steps for the Journey | Alvin Galea, Michael Schaefer, Mike Ebbers | Shroff Publishers and Distributers | | 2011 |
| 3. | Green Computing and Green IT Best Practice | Jason Harris | Emereo | | |
| 4. | Green Computing Tools and Techniques for Saving Energy, Money and Resources | Bud E. Smith | CRC Press | | 2014 |

Semester IV

Paper I

Unit I: Physical Chemistry

1.1 Electrochemistry-II: (8 L)

- 1.1.1 Electrochemical conventions, Reversible and irreversible cells.
- 1.1.2 Nernst equation and its importance, Types of electrodes, Standard electrode potential, Electrochemical series (Numericals expected).
- 1.1.3 Thermodynamics of a reversible cell, calculation of thermodynamic properties: ΔG , ΔH and ΔS from EMF data. (Numericals expected)
- 1.1.4 Calculation of equilibrium constant from EMF data. (Numericals expected)
- 1.1.5 Concentration cells with transference and without transference. Liquid junction potential and salt bridge.
- 1.1.6 pH determination using hydrogen electrode and quinhydrone electrode. (Numericals expected)

1.2 Phase Equilibria: (7L)

- 1.2.1 Phases, components and degrees of freedom of a system, criteria of phase equilibrium. Gibbs Phase Rule and its thermodynamic derivation.
- 1.2.2 Derivation of Clausius – Clapeyron equation and its importance in phase equilibria. (numericals expected)
- 1.2.3 Phase diagrams of one-component systems (water and sulphur).
- 1.2.4 Two component systems involving eutectics, congruent and incongruent melting points (lead-silver system).

Unit-II

2.1 Comparative Chemistry of the transition metals (9 L)

- 2.1.1 Position in the periodic table; Natural occurrence principal ores and minerals;
- 2.1.2 Significance of special stability of d^0 , d^5 and d^{10} leading to variable oxidation states; Unusual oxidation states and their stabilities in aqueous solutions (with special reference to vanadium, and chromium.)

- 2.1.3 Origin of colour for transition metals and their compounds: such as reflectivity, surface coatings, particle size, packing density for metals and nature of d-orbitals, number of electrons in the d-orbitals, geometry, and ability for charge transfer).
- 2.1.4 Magnetic properties of transition metal compounds: Origin of magnetism-spin and orbital motion of electrons; equation for spin only and spin-orbital magnetism in terms of Bohr magnetons (No derivation of relevant equations expected); Reasons for quenching of orbital moments.
- 2.1.5 Chemistry of Titanium and vanadium: properties of Oxides and chlorides; use in titrimetric analysis
- 2.1.6 Qualitative tests for transition metal ions: General considerations in devising tests (with reference to Chromium, Manganese, iron, Cobalt Nickel and Copper)

2.2 Coordination Chemistry : (6 L)

2.2.1 Introduction to Chemistry of Coordination Compounds

- i. Historical perspectives: Early ideas on coordination compounds
- ii. Basic terms and nomenclature.
- iii. Types of ligands
- iv. Isomerism :General Types with special reference to stereoisomerism of coordination compounds (C.N=6)
- v. Evidence for the formation of coordination compounds,

2.2.2. Theories of coordination compounds

- i. Werner's Theory of coordination compounds,
- ii. Effective atomic number rule.
- iii. Eighteen electron Rule

2.2.3. Nature of the Metal-Ligand Bond:

- i. Valence Bond Theory; Hybridisation of the central metal orbitals- sp^3 , sd^3/d^3s , sp^3d^2/d^2sp^3 , sp^2d ,
- ii. Inner and outer orbital complexes of .(suitable examples of Mn(II) Fe(II),Fe(III),Co(II)/Co(III),Ni(II), Cu(II) Zn(II) complexes with ligands like aqua, ammonia CN^- and halides may be used)
- iii. Limitations of V.B.T

2.2.4. Application of coordination compounds.

Unit III: Organic Chemistry

3.1 Carboxylic Acids and their Derivatives :(11 Lectures)

3.1.1. Nomenclature, structure and physical properties, acidity of carboxylic acids, effects of substituents on acid strength of aliphatic and aromatic carboxylic acids.

3.1.2. Preparation of carboxylic acids: oxidation of alcohols and alkyl benzene, carbonation of Grignard and hydrolysis of nitriles.

3.1.3. Reactions: Acidity, salt formation, decarboxylation, Reduction of carboxylic acids with LiAlH_4 , diborane, Hell-Volhard-Zelinsky reaction, Conversion of carboxylic acid to acid chlorides, esters, amides and acid anhydrides and their relative reactivity.

3.1.4. Mechanism of nucleophilic acyl substitution and acid-catalysed nucleophilic acyl substitution. Interconversion of acid derivatives by nucleophilic acyl substitution.

3.1.5. Mechanism of Claisen condensation and Dieckmann condensation.

3.2 Sulphonic acids: [4L]

Nomenclature, preparation of aromatic sulphonic acids by sulphonation of benzene (with mechanism), toluene and naphthalene, Reactions: Acidity of arene sulfonic acid, Comparative acidity of carboxylic acid and sulfonic acids. Salt formation, desulphonation. Reaction with alcohol, phosphorous pentachloride, IPSO substitution.

Semester IV Paper II

Unit I: Physical Chemistry

1.1 Solid State: (7L)

1.1.1 Recapitulation of laws of crystallography and types of crystals

1.1.2 Characteristics of simple cubic, face centered cubic and body centered cubic systems, interplanar distance in cubic lattice (only expression for ratio of interplanar distances are expected)

1.1.3 Use of X-rays in the study of crystal structure, Bragg's equation (derivation expected), X-rays diffraction method of studying crystal lattice structure, structure of NaCl and KCl. Determination of Avogadro's number (Numericals expected)

1.2 Catalysis: (8 L)

1.2.1 Types of catalysis, catalytic activity, specificity and selectivity, inhibitors, catalyst poisoning and deactivation

1.2.2 Mechanisms and kinetics of acid-base catalyzed reactions, effect of pH.

1.2.3 Mechanisms and kinetics of enzyme catalyzed reactions (Michaelis-Menten equation)

1.2.4 Effect of particle size and efficiency of nanoparticles as catalyst.

Unit-II

2 Ions in aqueous medium

2.1. Acidity of Cations and Basicity of Anions

- i. Hydration of Cations; Hydrolysis of Cations predicting degree of hydrolysis of Cations-effect of Charge and Radius.
- ii. Latimer Equation. Relationship between pKa, acidity and z^2/r ratios of metal ions graphical Presentation
- iii. Classification of cations on the basis of acidity category – Non acidic, Moderately acidic, strongly acidic, very strongly acidic with pKa values range and examples
- iv. Hydration of Anions; Effect of Charge and Radius; Hydration of anions-concept, diagram classification on the basis of basicity

2.2. Uses and Environmental Chemistry of volatile Oxides and oxo-acids

- i. Physical properties of concentrated oxo-acids like sulfuric, Nitric and Phosphoric acid
- ii. Uses and environments aspects of these acids

Unit III: Organic Chemistry

Nitrogen containing compounds and heterocyclic compounds:

3.1 Amines: Nomenclature, effect of substituent on basicity of aliphatic and aromatic amines;

3.1.1. Preparation: Reduction of aromatic nitro compounds using catalytic hydrogenation, chemical reduction using Fe-HCl, Sn-HCl, Zn-acetic acid, reduction of nitriles, ammonolysis of halides, reductive amination, Hofmann bromamide reaction.

3.1.2. Reactions- Salt Formation, N-acylation, N-alkylation, Hofmann's exhaustive methylation (HEM), Hofmann-elimination reaction, reaction with nitrous acid, carbylamine reaction, Electrophilic substitution in aromatic amines: bromination, nitration and sulphonation.

3.2 Diazonium Salts: (7 Lectures)

Preparation and their reactions/synthetic application - Sandmeyer reaction, Gattermann reaction, Gomberg reaction, Replacement of diazo group by -H, -OH. Azo coupling with phenols, naphthols and aromatic amines, reduction of diazonium salt to aryl hydrazine and hydroazobenzene

3.3 Heterocyclic Compounds: (8 Lectures)

SEMESTER VI

(Drugs and Dyes)

COURSE CODE: USACDD601

CREDITS: 02

LECTURES: 60

UNIT – I (Drugs)

| | | | | |
|----------|------------|-------|---|-------------|
| 1 | 1.1 | | Drug Discovery, Design and Development | (6L) |
| | | 1.1.1 | Discovery of a Lead compound: Screening, drug metabolism studies and clinical observation, Lipinski's rule of 5 | |
| | | 1.1.2 | Medicinal properties of compounds from Natural Sources: Anti-infective and anticancer properties of Turmeric (Curcumin) | |
| | | 1.1.3 | Development of drug: The Pharmacophore identification, modification of structure or functional group, Structure activity relationship (Sulphonamides). | |
| | | 1.1.4 | Structure modification to increase potency: Homologation, Chain branching and Extension of the structure. | |
| | | 1.1.5 | Computer assisted drug design. | |
| | 1.2 | | Drug Metabolism: Introduction, Absorption, Distribution, Bio-transformation, Excretion Different types of chemical transformation of drugs with specific examples. | (3L) |
| | 1.3 | | Chemotherapeutic Agents: Study of the following chemotherapeutic agents with respect to their chemical structure, chemical class, therapeutic uses, side effects and introduction to MDR wherever applicable. | |
| | | 1.3.1 | Antibiotics and antivirals: Definition, <ul style="list-style-type: none"> ● Amoxicillin (β-lactum antibiotics) ● Cefpodoxime (Cephalosporins) ● Doxycycline (Tetracyclines) ● Levofloxacin (Quinolones) (Synthesis from 2,3,4 – Trifluoro -1-nitrobenzene) ● Aciclovir/Acyclovir (Purines) | (2L) |
| | | 5.3.2 | Antimalarials: Types of malaria; Symptoms; Pathological detection during window period (Life cycle of the parasites not to be discussed) <ul style="list-style-type: none"> ● Chloroquine (3-Amino quinolones) ● Artemether (Benzodioxepins) Following combination to be discussed: Artemether-Lumefantrine (no structure) | (2L) |

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| | 1.3. 3 | Anthelmintics and AntiFungal agents Drugs effective in the treatment of Nematodes and Cestodes infestations. <ul style="list-style-type: none"> • Diethyl carbamazine (Piperazines) • Albendazole (Benzimidazoles) (Synthesis from 2-Nitroaniline) • Clotrimazole (Imidazole) • Fluconazole (Triazole) (Synthesis from 1- Bromo – 2,4-difluorobenzene) | (2L) |
|--|-----------|--|------|

UNIT – II(Drugs)
Chemotherapeutic Agents continued.

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|---|-----|---|------|
| 2 | 2.1 | Antiamoebic Drugs Types of Amoebiasis <ul style="list-style-type: none"> • Metronidazole, Ornidazole, Tinidazole (Imidazole) Synthesis of Metronidazole from glyoxal by Debus-Radziszewski imidazole synthesis route Following combination therapy to be discussed: Ciprofloxacin-Tinidazole | (1L) |
| | 2.2 | Antitubercular and Antileprotic Drugs Types of Tuberculosis; Symptoms and diagnosis of Tuberculosis. Types of Leprosy. General idea of Antibiotics used in their treatment. <ul style="list-style-type: none"> • PAS (Amino salicylates) • Isoniazide (Hydrazides) • Pyrazinamide (Pyrazines) • (+) Ethambutol (Aliphatic diamines) (Synthesis from 1- Nitropropane) • Dapsone(Sulphonamides) (Synthesis from 4- Chloronitrobenzene) • Clofazimine (Phenazines) • Bedaquiline (Quinoline) Following combination therapy to be discussed: (i) Rifampin + Ethambutol + Pyrazinamide (ii) Rifampin + Isoniazide + Pyrazinamide | (3L) |
| | 2.3 | Anti-Neoplastic Drugs Idea of malignancy; Causes of cancer Brief idea of Immuno Stimulants &Immuno depressants <ul style="list-style-type: none"> • Lomoustine (Nitrosoureas) • Anastrozole(Triazoles) (Synthesis from 3,5-bis (bromo methyl) toluene) • Cisplatin (Chloro Platinum) • Vincristine, Vinblastine, Vindesine) (Vinca alkaloids) (structure not expected) | (2L) |
| | 2.4 | Anti-HIV Drugs Idea of HIV pathogenicity, Symptoms of AIDS <ul style="list-style-type: none"> • AZT/Zidovudine, Lamivudine,DDI (Purines) | (1L) |
| | 2.5 | Drug Intermediates: Synthesis and uses 1. 2,3,6-Triamino-6- hydroxypyrimidine from Guanidine | (2L) |

| | | | |
|--|------------|--|-------------|
| | | <p>2. p-[2'-(5-Chloro-2-methoxy benzamido) ethyl]-benzenesulphonamide from Methyl-5-chloro-2-methoxybenzene</p> <p>3. 3-(p-Chlorophenyl)-3-hydroxypiperidine from 3-Chloroacetophenone</p> <p>4. p-Acetyl amino benzenesulphonyl chloride from Aniline</p> <p>5. Epichlorohydrine from propene</p> | |
| | 2.6 | <p>Nano particles in Medicinal Chemistry Introduction; Carbon nano particles (structures) and Carbon nano tubes:</p> <ul style="list-style-type: none"> • Functionalization for Pharmaceutical applications • Targeted drug delivery • In vaccine (Foot and mouth disease) • Use in Bio-physical treatment. <p>Gold nano particles in treatment of: Cancer; Parkinsonism; Alzheimer.</p> <p>Silver nano particles: Antimicrobial activity.</p> | (4L) |
| | 2.7 | <p>Drugs and Environmental Aspects</p> <ul style="list-style-type: none"> • Impact of Pharma-industry on environment, • International regulation for human experimentation with reference to: "The Nuremberg Code" and "The Helsinki Declaration". | (2L) |

Reference Books (For Units I & II):

1. Foye's principles of medicinal chemistry. 6th Edition, Edited by Davis William & Thomas Lemke, Indian edition by B I Publication Pvt Ltd, Lippincott Williams & Wilkins.
 2. Text book of organic medicinal & pharmaceutical chemistry. Wilson & Gisovolds, 11th Edition by John H Block, John M Beale Jr.
 3. Medicinal chemistry. Ashutosh Kar, New Age International Pvt. Ltd Publisher. 4th edition.
 4. Burger's Medicinal Chemistry, Drug Discovery & Development. Abraham & Rotella. Wiley
 5. Medicinal chemistry. Ashutosh Kar, New Age International Pvt. Ltd Publisher. 4th edition.
 6. Medicinal chemistry. V.K. Ahluwalia and Madhu Chopra, CRC Press.
 7. Principle of medicinal chemistry. Vol 1 & 2 S. S. Kadam, K. R. Mahadik, K. G. Bothara
 8. The Art of Drug synthesis. Johnson and Li. Wiley, 2007.
 9. The organic chemistry of drug design & drug action. 2nd ed. By Richard B Silvermann, Academic Press.
 10. The Organic Chemistry of Drug Synthesis. Lednicer and Mitscher, Wiley.
 11. Text book of drug design and discovery. Povl-Krog-Sgaard-Larsen, Tommy Liljefors and ULF Madsen, 3rd Edition Taylor & Francis.
 12. Bio-applications of nanoparticles. Edited by Warren C.W. Chan, Springer Publication.
 13. Nanoparticle and technology for drug delivery (Drugs and pharmaceutical sciences). Ram B.Gupta & Uday B.Kompella Pub. Informa Healthcare.
 14. Nano forms of carbon and its applications. Edited by Maheshwar Sharon and Madhuri Sharon. Monad Nanotech Pvt. Ltd.
 15. Environmental Chemistry. A. K. De
 16. Text Book on Law and Medicine. Chokhani and Ghormade. 2nd Edition. Hind Law House, Pune.
 17. Essentials of Medical Pharmacology. K D Tripathi, Jaypee Brothers Medical publishers Pvt. Ltd.
- Practical organic chemistry, Vogel.

USPH403 : Applied Physics II

Learning Outcomes :

On successful completion of this course, students will be able to :

- i) Understand the concepts of mechanics & properties of matter & to apply them to problems.
- ii) Comprehend the basic concepts of thermodynamics & its applications in physical situation.
- iii) Learn about situations in low temperature.
- iv) Demonstrate tentative problem solving skills in all above areas.

Unit 1 : Introduction to Geophysics

15 Lectures

CHAPTER 1 : GEOLOGY AND GEOPHYSICS

- 1.1 Introduction to Geophysics its branches and relationship with other sciences.
- 1.2 Earth and solar system: Meteorites and other extra-terrestrial materials.
- 1.3 Age of Earth and various methods of determination. Planetary evolution of the Earth and its internal structure: Elastic waves and variation of physical and chemical properties in the interior of Earth.
- 1.4 Major tectonic features of the ocean oceanic and continental crust.
- 1.5 Continental drift – geological and geophysical evidence: mechanisms, objections and present status.
- 1.6 Gravity and magnetic anomalies at Mid-ocean ridges: deep sea trenches, continental shield areas and mountain chains.
- 1.7 Geomagnetism, elements of Earth's magnetism: Internal, external fields and their causes, Palaeomagnetism, Polar wandering paths and reversals, Seafloor spreading and Plate tectonics.
- 1.8 Seismic belts of the Earth: Seismicity and plate movements.
- 1.9 Geodynamics of the Indian plate.
- 1.10 Utility of the different geophysical techniques (discussed above) in exploration for academic as well as for harnessing resources. Geophysical potential fields: Principles of Gravity and Magnetic methods.
- 1.11 Instrumentation, field procedures used in geophysical studies.
- 1.12 Case studies
- 1.13 Problems.

Suggested Textbooks and References

1. *Geomagnetism: Solid Earth and Upper Atmosphere Perspectives*. Nathani Basavaiah, Springer (2011).
2. *Introduction to Applied Geophysics: Exploring the Shallow Subsurface*. H.R. Burger, A.F. Sheehan and C.H. Jones. W.W. Norton, New York (2006).
3. *Earth Science*. E.J. Tarbuck, F.K. Lutgens and D. Tasa, Prentice & Hall (2005).
4. *Mantle Plumes and Their Record in Earth History*. K.C. Condie, Cambridge University Press, Cambridge, UK (2001)
5. *The Magnetic Field of the Earth: Paleomagnetism, the Core, and the Deep Mantle*. R.T. Merrill, M.W. McElhinny and P.L. McFadden, International Geophysical Series 63, Academic Press (1996).
6. *Applied Geophysics (Paperback)*. W.M. Telford, L.P. Geldart and R.E. Sheriff, Cambridge University Press, Cambridge (1990).

CHAPTER 2 : GEO-ENVIRONMENTAL SCIENCES

- 2.1 Environmental Magnetic Analysis relating to magnetic minerals and environmental systems, soil magnetism, mineral magnetic studies of lake and marine sediments and magnetic monitoring of air-, land- and water-pollution.
- 2.2 Geo-Environmental Studies relating to mining, urban, industrial, coastal and desert management, palaeoclimate, palaeoenvironment, medical geology, climate change and studies related to their impact on ecosystem.
- 2.3 Natural Hazard Investigations including scientific studies related to natural hazards such as earthquakes, landslides, floods and tsunamis.
- 2.4 Impact Assessment of Anthropogenic Activities such as heavy metal pollution in Mumbai aquatic system with industries and thermal power plants, urbanization, disposal of industrial and radio-active waste, excessive withdrawal of ground water and use of fertilizers.

Problems.

Suggested Textbooks and References

1. *Energy and Environment, 3rd Edition*. Robert A. Ristinen and Jack P. Kraushaar, John Wiley and Sons, Inc. (2015).
2. *Geomagnetism: Solid Earth and Upper Atmosphere Perspectives*. Nathani Basavaiah, Springer (2011).
3. *Textbook of Environmental Chemistry*. Balaram Pani, I.K. International Publishing House (2007).

4. *A Textbook of Environmental Studies, 1/e.* D.K. Asthana and Meera Asthana, S. Chand and Co. Publishing (2006).
5. *Environment: Problems and Solutions, 2/e.* D.K. Asthana and Meera Asthana, S. Chand and Co. Publishing (2006).
6. *Environmental magnetism.* R. Thompson and F. Oldfield F, Allen & Unwin (1986).

Unit II : Microprocessors

(15 Lectures)

8085 Microprocessor and Basic Assembly Language Programming (15 lectures)

Introduction, Historical Perspective, Organization of a Microprocessor Based system, how does the Microprocessor works, Machine Language, Assembly Language, High Level Languages, Writing and executing an Assembly Language Program.

8085 Bus Organization, 8085 Programming Model, The 8085 Microprocessor, Pin connection diagram and function of each pin, A detailed look at 8085 Microprocessor.

Basic definitions: Instruction, Opcode, operand. Instruction word Size, instruction Format, data format ,Addressing Modes, The 8085 Instruction Set(Classification) Data transfer Operations, Arithmetic Operations, Logical Operations Branch Operations , Introduction to Advanced I nstructions Flowchart

Main References:

1. G: Microprocessor Architecture, programming and Applications with the 8085 by Ramesh Gaonkar, 5th Edition, Prentice Hall of India.

Additional references:

1) Microprocessor and Applications by Vibhute and Borole, Technova Publications, Pune.

2) Microprocessor, Principles & Applications by Gilmore (2nd Ed) TMH

Unit III :

15 Lectures

A) Radiation Physics

1: **Basics of Radiation Science**

3L

Electromagnetic Spectrum, Introduction to radioactivity, Sources of radiation: Alpha, beta and gamma radiation, high energy electron radiation and X-rays, Radiation units, Sources of radiation: natural and man-made, Radiation protection

2: **Radiation Detectors and Beam Calibration**

4L

Types of radiation detectors, Ionization detectors, scintillation detectors, particle detectors, TLD, thin film detectors, Radiation field analyzer, Basic principles of beam profile measurement

Recommended Books:

1. Course in DRP by Dept of Atomic Energy

B) Radio communication :

1: Basics of Communication

3L

Block diagram of communication system, types of communication system: simplex, duplex, analog and digital communication,

Electromagnetic spectrum, base band and broad band communication. Noise concept and types, signal to noise ratio, noise figure, noise temperature.

2: Amplitude Modulation

2 L

Need of modulation, concept of modulation, AM waveform, mathematical expression of AM, concept of sideband, demodulation principles. AM Receiver: TRF and super-heterodyne receiver,

3: Frequency Modulation

2 L

FM modulation: definition, mathematical representation, frequency spectrum, bandwidth and modulation index.

4. Concept of ASK, PSK, FSK, PAM, PWM, PPM, PCM.

1 L

Recommended Books:

1. Communication Electronics: Principles and applications by Louis E Frenzel 3rd edition TMH Publications.

USDS204: Environmental Science

| | | | |
|--|---------------------------|-----------------------------|--------------|
| B. Sc (Data Science) | | Semester – II | |
| Course Name: Environmental Science | | Course Code: USDS204 | |
| Periods per week (1 Period is 50 minutes) | | 5 | |
| Credits | | 2 | |
| | | Hours | Marks |
| Evaluation System | Theory Examination | 2½ | 75 |
| | Internal | -- | 25 |

Course Objectives:

- To learn and sensitize learners to their environment
- To know about natural resources, ecology and ecosystem
- To learn insights of biodiversity, pollution and its impact
- Explore about Social Issues and the Environment
- To learn about Environment Management and sustainable development

| Unit | Details | Lectures |
|------------|---|-----------|
| I | <p>Introduction to Environmental Studies Importance of Environmental Education, Environmental Literacy, Environmental Engineering, Environmentalism, Components of Environment and their Interactions, Man and the Biosphere, Impacts of Development on Environment</p> <p>Natural Resources Forest Resources, Dams, Water Resources, Food Resources Energy Resources, Land Resources</p> | 12 |
| II | <p>Ecology Ecosystem, Ecosystem-Anthroposystem Comparison, Biome and Ecosystem, Energy Flow through the Ecosystem, Ecological Succession, Food Chains and Webs, Ecological Pyramids, Biological Magnification or Biomagnification, Human versus Natural Food Chains, Biogeochemical Cycles, The Water Cycle (Hydrologic Cycle), Carbon Cycle, Oxygen Cycle, , Nitrogen Cycle, Forest Ecosystems, , Grassland Ecosystems, Aquatic Ecosystems</p> <p>Biodiversity Genetic Diversity, Species Diversity, Ecosystem Diversity, Value of Biodiversity, Value of Genes, Biopiracy, Biogeographical Classification of India, India as a Mega Diverse Nation, Endemic Species of India, Threats to Biodiversity, Hotspots of Biodiversity, Endangered Species, Conservation of Biodiversity, Genetic Engineering and Biodiversity</p> | 12 |
| III | <p>Environmental Pollution Air Pollution, Water Pollution, Soil Pollution, Marine Pollution, Noise Pollution, Thermal Pollution, Solid Waste Management, Hazardous Waste Management, Pollution Prevention, Disaster Management</p> <p>Human Population and the Environment Population Growth, Human Rights, Value Education, HIV/AIDS, Environment and Human Health, Family Welfare Programmes, Women</p> | 12 |

| | | |
|-----------|---|-----------|
| | and Child Welfare, Role of Information Technology in Environment and Human Health | |
| IV | <p>Social Issues and the Environment From Unsustainable to Sustainable Development, Urban Problems Related to Energy, Water Conservation, Watershed Management, Resettlement and Rehabilitation, Environmental Ethics, Acid Rain, Ozone Layer Depletion, Greenhouse Effect, Global Warming and Climate Change, Pollution Control Boards and Control Pollution Acts in India, Nuclear Hazards and Accidents, Environmental Impact Assessment, Risk Management, Precautionary Principle, Polluter-Pays Principle, The Beneficiary-Pays Principle, Role of Non-Government Organizations, ISO 14000 Series of Environmental Management Standards, Economy and Environment</p> | 12 |
| V | <p>Environmental Management Environmental Impact Assessment, Methodology, Waste as a Resource, Environmental Laws, Requirements of a Contract, Environmental Legislations, Powers and Functions of Pollution Control Boards, Case Studies, Environmental Management Plan, Environmental Audit, Policies for Quality Improvement, Problems, Policy</p> <p>Sustainable Development Ethics, Laws of Nature, Progress, Environmental Stress, Sustainability, Self-purification and Regeneration, Action Plan, Computerization and Information Technology</p> | 12 |

| Books and References: | | | | | |
|------------------------------|---|-------------------|------------------|-----------------|-------------|
| Sr. No. | Title | Author/s | Publisher | Edition | Year |
| 1. | Environmental Studies | Benny Joseph | McGrawHill | 3 rd | 2017 |
| 2. | Principles of Environmental Science and Engineering | P. Venugopala Rao | PHI Learning | 6 th | 2014 |
| 3. | Introduction to Environmental Engineering | Gilbert M Master | Pearson | 3 rd | 2015 |
| 4. | Environmental Ethics: A Very Short Introduction | Robin Attfield | Oxford | 1 st | 2019 |
| 5. | Fundamental Concept in Environmental Studies | D.D. Mishra | S. Chand | Revised Edition | 2010 |

Course Outcomes:

After completion of the course, a student should be able to:

- Ability to recognise explain important of environment and its resources
- Knowledge about insights of ecology and biodiversity
- Recognise the cause and effects of environmental pollution and other social issues
- Knowledge about population and its impact on environment
- Insight into environment management and sustainable development.

FOOD SAFETY AND NUTRITION

| | | | |
|------------------------------|----------------------------|----------|---|
| Name of the Programme | Duration | Semester | Course/C ourse Code |
| B.Sc. in Hospitality Studies | Six Semesters | I | Food Safety & Nutrition(U SHO 108) |
| Course Code | Title | Credits | |
| USHO108 | Food Safety & Nutrition | 2 | |

| | | | | | | | |
|---|--------|-----------|--|--|--|--|--|
| For Course Per week 1 lecture/period is 60 minutes duration | | | | For Subject per week 1 lecture/period is 60 minutes duration | | | |
| | Theory | Practical | | | | | |
| Actual Contact | 3 | -- | | | | | |
| Credit | 2 | -- | | | | | |

Semester I – 15 weeks

| THEORY | | | | | PRACTICAL | | | | |
|--------------|-------------|----------------|---------|-------------|--------------|-------------|----------------|---------|-------------|
| Hours / week | Total Hours | Notional Hours | Credits | Total Marks | Hours / week | Total Hours | Notional Hours | Credits | Total Marks |
| 03 | 45 | 10 | 02 | | -- | -- | -- | -- | -- |

Contents of syllabus for USHO 108**OBJECTIVES:****At the end of Semester – I**

- To learn about the importance of hygiene & sanitation in the catering industry
- To get acquainted with the food standards.
- To learn about ways to minimize food poisoning and infections.
- To understand function, sources & deficiency of nutrients.
- To gain basic knowledge of nutrition
- To gain knowledge about maintenance of good health.
- To understand the changes brought about in food nutrients during processing

Semester I – 15 weeks

| UNIT | TOPIC | TOTAL NO. OF HOURS |
|-----------|--|--------------------|
| I | INTRODUCTION TO HYGIENE 1.1 Rules & importance of hygiene 1.2 Personal Hygiene 1.3 Cleaning of premises 1.4 Pest Control 1.5 Waste disposal 1.6 Dishwashing methods | 15 |
| | HACCP 2.1 Introduction 2.2 Importance 2.3 VII Critical Control Points | |
| | MICROBES 3.1 Introduction (Bacteria, Yeast, Mould) 3.2 Classification 3.3 Factors for growth 3.4 Role of microbes in manufacture of fermented foods (dairy products, Veg. & bakery preparations, alcoholic Bev., vinegar, fermented Indian foods) | |
| II | FOOD BORNE ILLNESS 1.1 Natural Toxins (Kesari Dal, Potatoes, Mushrooms, Shell Fish, Peanuts) 1.2 Chemical (Tin, Copper, Arsenic, Lead) 1.3 Bacterial toxins (staphylococcus, salmonella, Clostridium perfringens, Clostridium botulinum) 1.4 Food poisoning & Infections <ul style="list-style-type: none"> • Definitions • Food contamination & Spoilage • Differentiation • Examples | 15 |

FOOD ADULTERATION

2.1 Definition and types

2.2 Test to detect (coffee, semolina, flour, ghee, butter, margarine, oil, milk, turmeric, coriander powder, pepper corn , meat etc.

2.3 Food standards in India (PFA, FPO, MPO, BIS-ISI, AGMARK, ISO)

**Revised Syllabus of Courses of
Master of Commerce (M.Com) Programme at Semester I
(To be implemented from Academic Year- 2016-2017)**

Core Courses (CC)

**4. Business Ethics and Corporate Social
Responsibility**

Modules at a Glance

| SN | Modules | No. of Lectures |
|--------------|---|-----------------|
| 1 | Introduction to Business Ethics | 15 |
| 2 | Indian Ethical Practices and Corporate Governance | 15 |
| 3 | Introduction to Corporate Social Responsibility | 15 |
| 4 | Areas of CSR and CSR Policy | 15 |
| Total | | 60 |

Objectives

| SN | Objectives |
|----|---|
| 1 | To familiarize the learners with the concept and relevance of Business Ethics in the modern era |
| 2 | To enable learners to understand the scope and complexity of Corporate Social responsibility in the global and Indian context |

| SN | Modules/ Units |
|----|---|
| 1 | Introduction to Business Ethics |
| | <ul style="list-style-type: none"> • Business Ethics – Concept, Characteristics, Importance and Need for business ethics. Indian Ethos, Ethics and Values, Work Ethos, • Sources of Ethics, Concept of Corporate Ethics, code of Ethics-Guidelines for developing code of ethics, Ethics Management Programme, Ethics Committee. • Various approaches to Business Ethics - Theories of Ethics- Friedman’s Economic theory, Kant’s Deontological theory, Mill & Bentham’s Utilitarianism theory • Gandhian Approach in Management and Trusteeship, Importance and relevance of trusteeship principle in Modern Business, Gandhi’s Doctrine of Satya and Ahimsa, • Emergence of new values in Indian Industries after economic reforms of 1991 |
| 2 | Indian Ethical Practices and Corporate Governance |
| | <ul style="list-style-type: none"> • Ethics in Marketing and Advertising, Human Resources Management, Finance and Accounting, Production, Information Technology, Copyrights and Patents • Corporate Governance: Concept, Importance, Evolution of Corporate Governance, Principles of Corporate Governance, • Regulatory Framework of Corporate Governance in India, SEBI Guidelines and clause 49, Audit Committee, Role of Independent Directors, Protection of Stake Holders, Changing roles of corporate Boards. • Elements of Good Corporate Governance, Failure of Corporate Governance and its consequences |
| 3 | Introduction to Corporate Social Responsibility |
| | <ul style="list-style-type: none"> • Corporate Social Responsibility: Concept, Scope & Relevance and Importance of CSR in Contemporary Society. • Corporate philanthropy, Models for Implementation of CSR, Drivers of CSR, Prestigious awards for CSR in India. • CSR and Indian Corporations- Legal Provisions and Specification on CSR, A Score Card, Future of CSR in India. • Role of NGO’s and International Agencies in CSR, Integrating CSR into Business |
| 4 | Areas of CSR and CSR Policy |
| | <ul style="list-style-type: none"> • CSR towards Stakeholders-- Shareholders, Creditors and Financial Institutions, Government, Consumers, Employees and Workers, Local Community and Society. • CSR and environmental concerns. • Designing CSR Policy- Factors influencing CSR Policy, Role of HR Professionals in CSR • Global Recognitions of CSR- ISO- 14000-SA 8000 – AA 1000 – Codes formulated by UN Global Compact – UNDP, Global Reporting Initiative; major codes on CSR. • CSR and Sustainable Development • CSR through Triple Bottom Line in Business |

| | | | |
|--|---------------------------|-----------------------------|--------------|
| M. Sc (Information Technology) | | Semester – I | |
| Course Name: Cloud Computing | | Course Code: PSIT103 | |
| Periods per week 1 Period is 60 minutes | Lectures | 4 | |
| | Credits | 4 | |
| | | Hours | Marks |
| Evaluation System | Theory Examination | 2½ | 60 |
| | Theory Internal | -- | 40 |

| | |
|-------------------|---|
| Objectives | <input type="checkbox"/> To learn how to use Cloud Services. <input type="checkbox"/> To implement Virtualization. <input type="checkbox"/> To implement Task Scheduling algorithms. <input type="checkbox"/> Apply Map-Reduce concept to applications. <input type="checkbox"/> To build Private Cloud. <input type="checkbox"/> Broadly educate to know the impact of engineering on legal and societal issues involved. |
|-------------------|---|

| Unit | Details | Lectures |
|-------------|---|-----------------|
| I | Introduction to Cloud Computing: Introduction, Historical developments, Building Cloud Computing Environments, Principles of Parallel and Distributed Computing: Eras of Computing, Parallel v/s distributed computing, Elements of Parallel Computing, Elements of distributed computing, Technologies for distributed computing. Virtualization: Introduction, Characteristics of virtualized environments, Taxonomy of virtualization techniques, Virtualization and cloud computing, Pros and cons of virtualization, Technology examples. Logical Network Perimeter, Virtual Server, Cloud Storage Device, Cloud usage monitor, Resource replication, Ready-made environment. | 12 |
| II | Cloud Computing Architecture: Introduction, Fundamental concepts and models, Roles and boundaries, Cloud Characteristics, Cloud Delivery models, Cloud Deployment models, Economics of the cloud, Open challenges. Fundamental Cloud Security: Basics, Threat agents, Cloud security threats, additional considerations. Industrial Platforms and New Developments: Amazon Web Services, Google App Engine, Microsoft Azure. | 12 |
| III | Specialized Cloud Mechanisms: Automated Scaling listener, Load Balancer, SLA monitor, Pay-per-use monitor, Audit monitor, fail over system, Hypervisor, Resource Centre, Multidevice broker, State Management Database. Cloud Management Mechanisms: Remote administration system, Resource Management System, SLA Management System, Billing Management System, Cloud Security Mechanisms: Encryption, Hashing, Digital Signature, Public Key Infrastructure (PKI), Identity and Access Management (IAM), Single | 12 |

| | | |
|-----------|--|-----------|
| | Sign-On (SSO), Cloud-Based Security Groups, Hardened Virtual Server Images | |
| IV | Fundamental Cloud Architectures: Workload Distribution Architecture, Resource Pooling Architecture, Dynamic Scalability Architecture, Elastic Resource Capacity Architecture, Service Load Balancing Architecture, Cloud Bursting Architecture, Elastic Disk Provisioning Architecture, Redundant Storage Architecture. Advanced Cloud Architectures: Hypervisor Clustering Architecture, Load Balanced Virtual Server Instances Architecture, Non-Disruptive Service Relocation Architecture, Zero Downtime Architecture, Cloud Balancing Architecture, Resource Reservation Architecture, Dynamic Failure Detection and Recovery Architecture, Bare-Metal Provisioning Architecture, Rapid Provisioning Architecture, Storage Workload Management Architecture | 12 |
| V | Cloud Delivery Model Considerations: Cloud Delivery Models: The Cloud Provider Perspective, Cloud Delivery Models: The Cloud Consumer Perspective, Cost Metrics and Pricing Models: Business Cost Metrics, Cloud Usage Cost Metrics, Cost Management Considerations, Service Quality Metrics and SLAs: Service Quality Metrics, SLA Guidelines | 12 |

| Books and References: | | | | | |
|------------------------------|---|--|------------------|----------------|-------------|
| Sr. No. | Title | Author/s | Publisher | Edition | Year |
| 1. | Mastering Cloud Computing Foundations and Applications Programming | Rajkumar Buyya, Christian Vecchiola, S. Thamarai Selvi | Elsevier | - | 2013 |
| 2. | Cloud Computing Concepts, Technology & Architecture | Thomas Erl, Zaigham Mahmood, and Ricardo Puttini | Prentice Hall | - | 2013 |
| 3. | Distributed and Cloud Computing, From Parallel Processing to the Internet of Things | Kai Hwang, Jack Dongarra, Geoffrey Fox | MK Publishers | -- | 2012 |