S-01 & 02 June, 2016 AC after Circulars from Circular No.100 & onwards+   - 39 -

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY

CIRCULAR NO. SU/Service Course/30/2016

It is hereby inform to all concerned that, the Choice Based Credit and Grading System have been implemented to the affiliated colleges from the academic year 2015-16 at Post Graduate level for the all Faculties. According to the guidelines of C.B.C. & G.S. it is essential to teach the Service Course to students. The authorities of the university has decided that the service courses run at University Campus and Sub-Center, Osmanabad be apply to the college level. The concerns are inform that to instruct to the students to Choice any one Service Course as per their willingness. Where only one post graduate course they can take the service course of the concerned subject. The syllabi of the service courses are uploaded with the circular on the University website www.bamu.ac.in

The service courses be teach to the students with the **syllabus of IVth-Semester for this year only and hereafter** to tech with the syllabus of III-Semester as per their relevant courses.

This is effective from the academic year 2016-17.

All concerned are requested to note the contents of this circular and bring notice to the students, teachers and staff for their information and necessary action.

University Campus,
Aurangabad-431 004.
REF.NO. SU/SERVICE COURSE /
    SYLLA./2016/5117-516
Date:- 02-09-2016.

      ★
      ★
      ★   *Director,*
      ★   *Board of College and*
★★★★★★   *University Development.*

Copy forwarded with compliments to:-

1] **The Principals of concerned Colleges,**
    Dr. Babasaheb Ambedkar Marathwada University.

Copy to :-

1]   The Controller of Examinations,
6]   The Section Officer, [M.A. Unit],
7]   The Section Officer, [M.Sc. Unit],
8]   The Section Officer, [M.Com. Unit],
9]   The Section Officer, [Management Unit],
10]   The Section Officer, [Professional Unit],
11]   The Section Officer, [Engineering Unit],
3]   The Programmer [Computer Unit-1] Examinations,
4]   The Programmer [Computer Unit-2] Examinations,
5]   The Public Relation Officer,
6]   The Co-ordinator, E-Suvidha Kendra, [Rajarshi Shahu Maharaj Pariksha Bhavan,
7]   The Record Keeper.
    Dr. Babasaheb Ambedkar Marathwada University,

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DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.

M.Sc. Computer Science

Service Course

[Academic Year 2016-17 & onwards]

Service Courses:

- The student should opt service course of 4 credits either from parent department or from other department.

Service Course I (To Be Opted in Semester II)				Total Marks	
Course Code	Course Title	No. of Credits	No. of Hrs./Week	Internal	External
CSI410	Constitution of India	4	4	20	80
CSI411	Communication Skills	4	4	20	80
CSI412	Personality Development	4	4	20	80
CSI413	Aptitude Development	4	4	20	80

Service Course II (To Be Opted in Semester IV)				Total Marks	
Course Code	Course Title	No. of Credits	No. of Hrs./Week	Internal	External
CSI535	Introduction to MATLAB	4	4	20	80
CSI536	Web Developments	4	4	20	80
CSI537	Android Programming	4	4	20	80
CSI538	Research Methodology	4	4	20	80

Service Course - I

Course Code	CSC411	Course Title	Communication Skills
Number of Credits	4 Credits (TH)	Internal	20
Total Contact Hours	4 HRS (TH/Week)	External (Semester/Term Exam)	80

Course Objective:

1. To make the students aware of the importance of grammar and vocabulary in written and spoken communication which will lead to enhance interpersonal and social interaction.
2. To enable them to reflect and improve on their communicative behavior.
3. To train them to use language effectively to face interviews, group discussions and public speaking.

Prerequisite:

It is just assumed to have the basic knowledge of English language with an urge to develop it more effectively.

At Course Completion:

The student will be able to improve his writing and reading skills and will be having improved clarity of communication.

Course Outline

Unit-1:

Effective Communication: Concept and meaning of communication, types of communication, attributes of effective communication, barriers to effective communication.
Tools of English: Spoken Vs. Written communication, Basic Grammar: parts of speech: Noun, Pronoun, Verb, Adjectives, Adverbs, prepositions, Conjunction and Interjection.

Unit-2:

Skill Enhancement:
Listening Skills: Understanding assignments to resolve problems and answer questions to understand the hidden meaning what people say.
Presentation Skills: Components of good presentation, group dynamics, speeches.
Fifteen principles to increase clarity of communication, effective speaking guidelines, pronunciation etiquettes.
Body language:-Importance, concept, nine emotions displayed through body language, zones of intimacy and desirable/undesirable body language in professional institutes.

Unit-3:

Technical Communication:
Writing of memos, e-mail, letter writing, business letters, cover letters, social and goodwill letters, adjustment letters, bank and insurance letters, resumes, memos e-mail etiquettes, reports, basics of report writing, technical proposal and comprehension.

Unit-4:

Career Skills: Applying for job, interviews, types of interviews, group discussions, key steps to succeed in group discussion, resume profiling, strategy of resume writing, difference between a resume and curriculum vitae.

Unit-5:

Soft skills: Classification of soft skills, Communication and networking, Empathy (Understanding other person's view), Intrapersonal skills, Interpersonal skills, Negotiation skills.

Books:

- Effective Communication by Urmila Rai and S.M.Rai.

Reference Books:-

1) "Communication skills" by Meenakshi Raman and Sangeeta Sharma
2) "Technical Communication-Principles and Practice" by Meenakshi Raman and Sangeeta Sharma.
3) Personality Development and Soft Skills by Barun K. Mitra

Course Code	CSC412 Service Course	Course Title	Personality Development
Number of Credits	4 Credits (TH)	Internal	20
Total Contact Hours	4 HRS (TH/Week)	External (Semester/Term Exam)	80

Course Objective:

To make student competent for cracking the Aptitude papers at the entry point of their carriers.

Prerequisite:

To be registered PG student of any faculty, any stream from our University

At Course Completion:

The students will gain following points after completion of course

- The personality development programmes will groom their overall personality.
- Will experience positive attitude in his life
- Rise in Confidence level

Course Outline

Unit - 1:

Interpersonal Skills: Introduction to Interpersonal Relations, Analysis of Life position.
Communication Skills: Introduction to Communication, Flow of Communication, Listening, Barriers of Communication, How to overcome barriers of communication.

Unit - 2:

Stress Management: Introduction to Stress Causes of Stress, Impact Management Stress, And Managing Stress.
Group Dynamics &Team Building: Group Dynamics, Importance of groups in organization, Team Interactions in group, How to build a good team?

Unit - 3:

Personality Development: Inner Personality Development , Role of motivation & body language, Filling the GAP- Grooming, Attitude, Personality.
Business Writing: Use of Simple structure while writing, Apply a positive tone in business communication.

Unit - 4:

Time Management: Time as a Resource, Identify Important Time, Management Wasters, Techniques for better Time Management.

Role-Plays: Real-life Conversation Practice, Develop an ability to converse fluently and confidently in all kinds of situations, To identify characteristics of different personality styles, passage Reading.

Unit - 5:

Motivation: Introduction to Motivation , Relevance and types of Motivation.

Creative Thinking: Express creativity in everyday situations, Know the creative thinking process, and Develop a positive attitude.

Recommended Books

1. "An Approach to Communication Skills", Indrajit Bhattacharya, Delhi : Dhanpat Rai, 2008.
2. Collins Cobuild English Grammer.
3. "Business Communication Skills", Varinder Kumar, Bodh Raj, Manocha, Kalyani Publishers, New Delhi, latest edition.
4. "Communication Today & Tomorrow", Ravi Aggarwal, Sublime Publications, Jaipur, 2008.
5. "Objective Approaches to Personality Assessment", Bernard M. Bass and Irwin A. Berg, Princeton, New Jersey, 1959.

Course Code	CSC413 Service Course	Course Title	Aptitude Development
Number of Credits	4 Credits (TH)	Internal	20
Total Contact Hours	4 HRS (TH/Week)	External (Semester/Term Exam)	80

Course Objective:

To make student competent for cracking the Aptitude papers at the entry point of their carriers.

Prerequisite:

To be registered PG student of any faculty, any stream from our University.

At Course Completion:

Students Fluid and crystallised intelligence will be boosted.
This will help students to:
- effective problem-solving skills
- ability to quickly learn new skills
- ability to quickly integrate new information
- strategic thinking
- ability to deal with ambiguity in decision making

Course Outline

Unit-1:

English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.

Unit-2:

General Mental Ability, include Verification of Truth of the Statement, Assertion And Reason, Alpha Numeric Sequence Puzzle, Direction Sense Test, Series Completion, Inserting The Missing Character, Logical Sequence Of Words, and Logical Venn Diagrams.

Unit-3:

Logical Deduction, the chapters include Cause And Effect Reasoning, Statement-Conclusions, Theme Detection, Statement-Arguments, Deriving Conclusions From Passages, Logic, Statement-Assumptions, and Statement-Course Of Action.

Unit-4:

Construction Of Squares And Triangles, Classification, Figure Formation & Analysis, Series, Completion Of Incomplete Pattern.

Unit-5:

Paper Folding, Analogy, Analytical Reasoning, Cubes And Dice, and Spotting Out The Embedded Figures, Mensuration (2D and 3D), Data Interpretation, Sources, acquisition and interpretation of data, Graphical representation and mapping of data.

Books:
1. A Modern Approach To Verbal & Non-Verbal Reasoning book by RS Aggarwal,
2. Quantitative Aptitude For Competitive Examinations by Abhijit Guha
3. Course in Mental Ability and Quantitative Aptitude by Edgar Thorpe

Reference Books:
1. A Modern Approach To Verbal Reasoning by R. S. Aggarwal
2. Data Interpretation & Data Sufficiency By B S Sijwali
3. Analytical Reasoning By M K Pandey

Service Course - II

Course Code	CSC535 Service Course	Course Title	Introduction to MATLAB
Number of Credits	4 Credits (TH)	Internal	20
Total Contact Hours	4 HRS (TH/Week)	External (Semester/Term Exam)	80

Course Objective:

To provide the general basic flavor of MATLAB Environment to the students so that they can apply it for their specific domain.

Prerequisite:

Basic knowledge of any programming environment

At Course Completion:

Students can develop good GUI based application to solve their mathematical, statically or any data processing applications in MATLAB.

Course Outline

Unit-1:

Introduction: What is MATLAB? Advantages and Disadvantages, MATLAB Architecture, MATLAB System, Typical Uses of the MATLAB, Application Areas.

Starting with MATLAB: Introduction, Development Environment, MATLAB search path, Typing Commands, Variables and Numbers, Vectors and Matrices

Unit-2:
Data Types, Operators & Control Statements: Introduction, Data Types, Operator, Flow Control Statements.
M-file Programming: Introduction, Program Development, M-file programming, M-file Types, Function Arguments, Function Types, Function Handle, P-Code, MATLAB Expression and Regular Expression, Error Handling.

Unit-3:
Advanced capabilities in MATLAB: Introduction, Cell Array, Structure, Sparse Array
Mathematics: Introduction, Matrices, Linear Equation, Factorization, Eigenvalues, Polynomial, Interpolation, Data Analysis, Polynomial Regression, Fourier Approximation, Integration and Differentiation, Differential Equation.

Unit-4:
Graphics: Introduction, 2-D Plotting, Plot style option, How to edit plot, Basic Statistics of the Graph, The Plots Creating, Animation, Graphics Object Handling, 3-D visualization.
Graphical User Interface: Introduction, GUI layout tools, Dialog box, List Box, Accessing variables from workspace, GUI Components, Solved Example.

Unit-5:
Application Program Interface (API) or External Interfaces: Introduction, Import and Export Data, Low level File I/O Functions, Calling C-programs from MATLAB, Calling Java from MATLAB.
References:
1. www.mathworks.com (MATLAB Toolbox)
2. "Understanding MATLAB" by Shroff Publications, 2013, Authors: K V Kale, R R Manza, V T Humbe, P L Yannawar and G. R. Manza, Shroff Publications

Course Code	CSC536 Service Course	Course Title	Web Developements
Number of Credits	4 Credits (TH)	Internal	20
Total Contact Hours	4 HRS (TH/Week)	External (Semester/Term Exam)	80

Course Objective:
This course will provide an opportunity lean concepts related to web site design. Student will be exposed with design of static as well as dynamic web sites based on HTML/DHTML environments.

Prerequisite:
Student should have an experience of using internet.

At Course Completion:
student will be able to design web site by his/her own.

Course Outline

Unit-1:
Introduction: WWW, Components of WWW, Domain, Host, Hosting Platforms, Development Environments, Website, Web pages, Multimedia contents, How to own and register a web site, Server Side Development technologies, Client Side Development Technologies in Web

Unit-2:

Web page design using HTML: Introduction (Header, Data rows, The Caption Tag); Using the Width and Border Attribute; Using the Cell padding Attribute; Using the Cell spacing Attribute; Using the BGCOLOR Attribute; Using the COLSPAN and ROWSPAN Attributes Linking Documents: Links (External Document References, Internal Document References); Images as Hyperlinks (Image Maps). Frames: Introduction to Frames (The tag, The tag, Targeting Named Frames. DHTML: Cascading style sheets, Style tag.

Unit - 3:

Working with Forms: The Form Object; The Form Object's Methods (The Text Element, The Password Element, The Button Element, The Submit (Button) Element, The Reset (Button) Element, The Checkbox Element, The Radio Element, The Text Area Element, The Select and Option Element, The Multi Choice Select Lists Element); Other Built-In Objects in JavaScript (The String Object, The Math Object, The Date Object); User Defined Objects (Creating a User Defined Object, Instances, Objects within Objects)

Unit-4:

Introduction to VB Script, Adding VBScript code to HTML page, VBScript Data type-Variant subtypes, VBScript Variables: (Declaring variable, Naming restrictions, Assigning value to variables, Scalar variables and Arrays), VBScript Constants, VBScript Operators, and Operator precedence; Message Box: functions of message box (Prompt, Buttons, Title, Helpline, Context), Return values of MsgBox function, button argument setting. Conditional statements: If.. Then.. Else, Select case; Loops: Do loops, While.. Wend, For.. Next, For.. Each. .Next; VBScript variables: Sub procedures, Function procedures; Using VBScript with HTML form controls, Data handling functions, String functions, Date and Times functions;

Unit-5:

Working with Cookies, Java Scripts: What is JavaScript , Uses of JavaScript, Writing JavaScript, Variables , Functions, Objects , Properties, Methods, Write to a Document, Open a Window Events and Objects , Image Rollovers

Reference Books:
- Alexis Leon, "Internet for EveryOne", 1st Edition, Leon Techworld, Publication, 2009.
- Greenlaw R; Hepp E, "Fundamentals of Internet and WWW" 2nd Edition, Tata McGraw-Hill, 2007
- Raj Kamal,"Internet & Web Technologies" edition Tata McGraw-Hill Education.2009
- Bayross Ivan "HTML, DHTML, Javascript, PERL, CGI" 3rd Edition, BPB Publication,2009

Course Code	CSC537 Service Course	Course Title	Android Programming
Number of Credits	4 Credits (TH)	Internal	20
Total Contact Hours	4 HRS (TH/Week)	External (Semester/Term Exam)	80

Objective:
To provide the emulator based environment training to develop the mobile apps.

Prerequisite:
Basic knowledge of any programming environment

At Course Completion:

Students can absorb in Android Mobile Apps development industries or they can start their own apps development business.

Course Outline
Unit-1:
Environment Setup: Setup Java Development Kit (JDK), Android SDK, Eclipse IDE, Android Development Tools (ADT) Plugin, Create Android Virtual Device. Architecture: Linux kernel, Libraries, Android Runtime, Application Framework.

Unit-2:
Application Components: Application Components Activities, Services, Broadcast Receivers, Content Providers, Additional Components, Create Android Application, Anatomy of Android Application, The Main Activity File, The Manifest File, The Strings File, The R File, The Layout File, Running the Application.

Unit-3:
Resources Organizing & Accessing: Alternative Resources, Accessing Resources. **Intents and Filters:** Intent Objects, Action, Android Intent Standard Actions, Data, Category, Extras, Flags, Component Name, Types of Intents: Explicit Intents, Implicit Intents.

Unit-4:
UI Layouts: Android Layout Types, Relative Layout Attributes, Grid View Attributes, Sub-Activity, Layout Attributes, View Identification, UI Controls, Android UI Controls, Text View Attributes, Auto Complete Text View Attributes, Button Attributes, Image Button Attributes, Check Box Attributes, Toggle Button Attributes, Radio Button Attributes, Radio Group Attributes.

Unit-5:
Event Handling: Event Listeners & Event Handlers, Event Listeners Registration, Styles and Themes, Defining Styles, Using Styles, Style Inheritance, Android Themes, Default Styles & Themes, Custom Components, Creating a Simple Custom Component.

Reference:
1. Android Tutorial, Simply Easy Learning by tutorialspoint.com.
   Link: http://www.tutorialspoint.com/android/android_tutorial.pdf

Course Code	CSC538	Course Title	Research Methodology
Number of Credits	4 Credits (TH)	Internal	20
Total Contact Hours	4 HRS (TH/Week)	External (Semester/Term Exam)	80

Unit-1:
Introduction
Meaning, Concept, nature steps types and characteristics of research, Identification & formulation of Research Problem, Hypothesis, Research Design & Research Ethics.
Review of literature
Need for Reviewing Literature, what to Review and for what purpose, Literature search Procedure, Sources of Literature, Planning of Review work, Note Taking.

Unit-2:
Types and Methods of Research
Classification of Research, Pure and Applied Research, Exploring or Formulative Research Descriptive Research, Diagnostic Research / Study, Evaluation Research / studies, Action

Research, Experimental Research, Analytical study of statistical Method, Historical Research, Surveys, Case Study, Field Studies.

Unit-3:
Development of research proposal
Research proposal and its elements, Formulation of research problem - criteria of sources and definition, Development of objectives and characteristics of objectives, Development hypotheses and applications.

Unit-4:
Methods & tools of data collection:
Concept of sampling and other concepts related to sampling. Probability and non - probability samples, their characteristics and implications. Tools of data collections, their types, attributes and uses. Redesigning, research tools - like questionnaire, opinnaere, observation, interviews, scales and tests etc.
Field Work
The Nature of Field Work, Selection and Training of Investigators, Sampling Frame and Sample Selection, Field Operation, Field Administration.

Unit-5:
Methods of data analysis:
Editing, Classification and Coding, Transcription, Statistical Analysis, Measures of Central Tendency Measures of Dispersion, Measures of Association / Relationship, Regression and Correlation Analysis, Hypothesis Testing (For Proportion and Means), Test of Significance.
Report writing and evaluations:
Types of Reports, Planning of Report Writing, Research Report Format, Principles of Writing, Documentation, Data and Data Analysis reporting in a Thesis, Writing of Report, Typing of Report, Briefing. Use of Anti-plagiarism software and its importance.

References:
1) Bajpai S. R., (1975), Methods of Social Survey and Research, Kitabghar, Kanpur.
2) Bhattacharya D. K., (2004), Research Methodology, New Delhi, Excel Books.
3) Brymann Alan and Carmer D., (1995), Qualitative data analysis for social / scientist, New York, Routledge publication.
4) Best J. W. and Khan J. V., (2005), Research in Education New Delhi, Prentice Hall India. Hans Raj (19gg) Theory and practice in Social Research, Surjeet publication, Kolhapur.
5) Chandera A. and Saxena T. P., (2000), Style Manual, New Delhi, Metropolitan Book Comp. Ltd.
6) Krishnaswami O. R., (1988), Methodology of Research in Social Science, Himalaya pub. House.
7) Kothari, C. R., (2005), Quantitative Technique, New Delhi, Vikas publication House.
8) Gautam N. C., (2004), Development of Research tools, New Delhi, Shree Publishers.
9) Gupta, Santosh, (2005) Research Methodology and statistical Techniques, Deep and Deep publications.
10) Shukla J. J., (1999) Theories of Knowledge, Ahmadabad, Karnavati Publication.