

Circular file

- 39 -

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY**CIRCULAR NO.SU/Commerce & Management/ III Sem./50/2019**

It is hereby inform to all concerned that, on the recommendation of the Dean, Faculty of Commerce & Management, the Hon'ble Vice-Chancellor in his emergency powers under Section-12(7) of the Maharashtra Public Universities Act, 2016 has accepted the syllabi of **B.Com., BBA & BCA III Sem.** under Choice Based Credit and Grading System on behalf of the Academic Council to be applied from the Academic Year 2019-2020 and onwards. The said syllabi are uploaded on bamu.ac.in at University website.

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/ COMMERCE/2018-19
25445-844
Date:- 31-05-2019.

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[Signature]
**Deputy Registrar,
Syllabus Section.**

Copy forwarded with compliments to :-

- 1] **The Principals, affiliated concerned Colleges, Dr. Babasaheb Ambedkar Marathwada University.**
- 2] **The Director, University Network & Information Centre, UNIC, with a request to upload this Circular along with the said syllabi on University Website.**

Copy to :-

- 1] The Director, Board of Examination & Evaluation,
- 2] **The Section Officer, [B.Com. Unit] Examination Branch,**
- 3] **The Programmer [Computer Unit-1] Examinations,**
- 4] **The Programmer [Computer Unit-2] Examinations,**
- 5] The In-charge, [E-Suvidha Kendra], Rajarshi Shahu Maharaj Pariksha Bhavan, Dr. Babasaheb Ambedkar Marathwada University.
- 6] The Public Relation Officer,
- 7] The Record Keeper.

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B. C. A. III Sem

**D.R. BABASAHEB AMBEDKAR
MARATHWADA UNIVERSITY,
AURANGABAD.**



Curriculum of

BACHELOR OF COMPUTER APPLICATION

(BCA)

IIIND YEAR

THIRD SEMESTER

under Choice Based Credit & Grading System

[*Effective from the Academic Year 2019-20 & onwards*]

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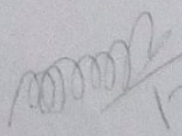
FACULTY OF COMMERCE & MANAGEMENT.

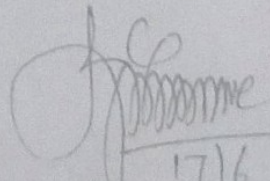
Syllabus - Bachelor of Computer Application (BCA)

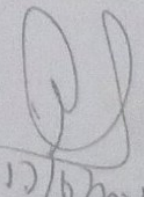
Choice Based Credit System (CBCS) - 2019-20

Semester & Credits	Core Course [04]	Ability Enhancement Compulsory Courses [AEC] [01]	Discipline Specific Elective [DSE] [01]
III Credit 24	1. Principle of Management 2. OPSS using C++ 3. Business Law - I 4. DBMS	1. E-Business Essential	Elective Paper [Any One] 1. Data Structure & Algorithm 2. RDBMS using ORACLE
Total Credits 24	No. of Credits : 16	No. of Credits : 04	No. of Credits : 04

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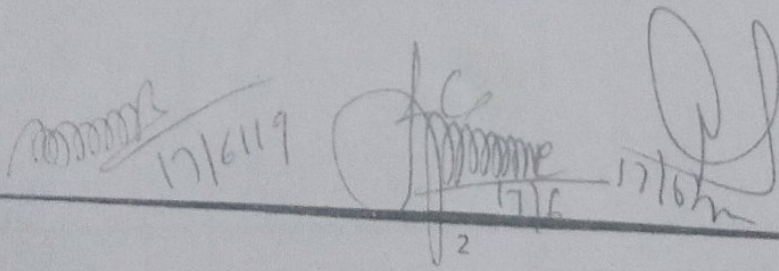

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Structure of B. C. A. Third Semester
Choice Based Credit Grading System (CBCS) 2019 - 2020

Paper Number	Subject/ Title of the Paper	Course	Weekly		Credits		IA	UA	Total Marks	Duration of Theory Exam
			Th	Pr	Th	Pr				
XIII	Principles of Management	Core Course	4	-	4	-	20	80	100	3 Hrs
XIV	OPPS using C++	Core Course	2	2	2	2	50	50	100	2 Hrs
XV	Business Law – I	Core Course	4	-	4	-	20	80	100	3 Hrs
XVI	DBMS	Core Course	4	-	4	-	20	80	100	3 Hrs
XVII	E-Business Essential	Ability Enhancement Compulsory	4	-	4	-	20	80	100	3 Hrs
XVIII	1.Data Structure and Algorithm 2.RDBMS using ORACLE	Discipline Specific Elective [Any One]	2	2	2	2	50	50	100	2 Hrs
Total			20	4	$20 + 4 = 24$		120	480	600	--

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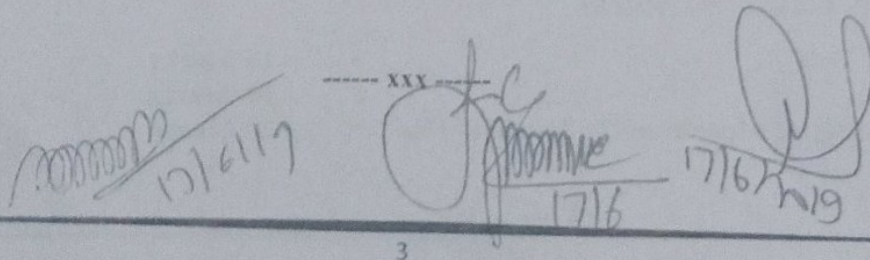
B.C.A. IIIrd Semester Syllabus (CBCS)
Paper No. XIII – Principles of Management

Theory – 80 Marks
Sessional – 20 Marks

	No. of Lectures
Unit - I Introduction of Management : Introduction, Meaning and concept of management, nature, scope, characteristics and importance of management, role and functions of management, level of management, difference between management and administration, brief review of management thoughts of F. W. Taylor, Henry Fayol, Elton Mayo, Peter Drucker etc.	(12)
Unit - II Managerial Planning and Decision Making : Planning : meaning and definition, characteristics and importance of planning, planning process, benefits of ideal planning, limitations of planning, types of plans. Forecasting : meaning and definition, methods of forecasting. Decision making : meaning and definition, types of decisions, decision making process	(12)
Unit - III Staffing and Organization : Staffing : meaning and definition of staffing, need and importance of staffing, Recruitment: meaning, definition, process, and methods of recruitment, Selection: meaning, definition, selection procedure and training of personnel Organization : meaning, definition and importance of organization, principles of organization, types of organization, difference between accountability and responsibility, centralization of Authority and decentralization of Authority.	(12)
Unit - IV Directing and Controlling : Directing : meaning, definition and importance of directing, principles and techniques of directing Controlling : meaning, definition, need and importance of control, process of control, techniques of control	(12)
Unit - V Recent Trends in Business Management : Change management, disaster management, TQM, Bench Marking, Six Sigma, Management development : meaning, definition, need and importance, management development process, methods and techniques Practical: 20 Marks (to be conducted by the department in each college as per convenience) 1. Test- 05 2. Tutorial- 10 3. Seminar- 05	(12)

Reference Books :

1. Principles of management by Dr. K.Natarajan and Dr.K.PGanesan
2. Principles of management by P.Subbarao
3. Principles of management by B.P.Singh / Dr.T.Ramaswamy
4. Principles & Practice - T N Chhabra, Dhanapat Rai & Co. of Management.
5. Management – LM .Prasad.
6. Makers of Modern India - NBT Publication.
7. Principles and practice of management by Saxsena S. C.


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B.C.A. IIIrd Semester Syllabus (CBCS)
Paper No. XIV – OPSS using C++

Theory – 50 Marks
Sessional – 50 Marks

No. of
Lectures
(10)

Unit - I **Introduction to C++** : Basic concepts, object oriented programming Class, Object, Data Abstraction, benefits & applications of OOP, Structure of C++ program, Creating a source file, compiling and Linking, Tokens, Expressions and Control structures: Introduction, Tokens, keywords, Identifiers and constants, Data types - Basic, User defined and Derived, Symbolic constant, Type Compatibility, Variables - Declaration and Dynamic initialization, Reference variable, Operators in C++, Scope resolution operator, Member Referencing operators, Memory management operators, Manipulators, Type cast operators, Expression and their types, Special Assignment Expressions, Implicit conversions, Operator overloading introduction, Operator precedence, Control structures – if-else, do-while, for, switch

Unit - II **Functions in C++** : Introduction, The main function, Function prototyping, Call by reference, Return by reference, Inline function – Making an outside function Inline, Arguments - default, constant, Math library functions. (08)

Unit - III **Classes and Objects** : Introduction, Creating a class and objects, Defining member functions inside and outside class, Nesting of member functions, Private member functions, Arrays within a class, Memory allocation of objects, Static data members and static member functions, Array of objects, Objects as function arguments, Friend functions, Returning objects, Constructors, Types of constructor, Destructors. (14)

Unit - IV **Inheritance** : Introduction, Base class and derived class examples, Types of Inheritance, Virtual base class, Abstract class, Constructors in derived class. (14)

Unit - V **Polymorphism** : Compile Time Polymorphism, Function overloading, Operator Overloading Introduction, Overloading unary and binary operator, Overloading using friend function, Overloading insertion and extraction operators, String manipulation using operator overloading, Runtime Polymorphism, pointers to objects, pointer to derived, classes, Virtual functions and pure virtual functions. (14)

Practical's U/A : 50 Marks

1. One Test : 10 Marks
2. Oral : 20 Marks
3. Writing of Algorithms in Journal / File : 20 Marks

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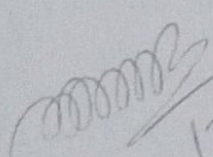
Reference Books :

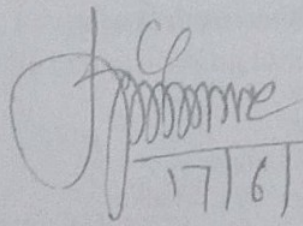
1. Object oriented programming with C++ - by E. Balagurusamy, Tata McGraw-Hill Publishing.
2. Object Oriented Programming with C++ by Robert Lafore, Galgotia
3. Let us C++ Yeshwant Kanetkar, BpB Publications

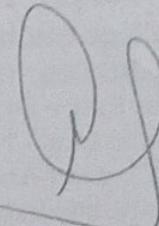
Practical list for programming in C++

1. Simple C++ Program.
2. Program on Data Types and Operators.
3. Program for Looping and Branching Statement.
4. Program for Reference Variable.
5. Program for Function Overloading.
6. Program for Friend Function and Inline Function.
7. Program for Static Data Member and Function.
8. Program for Operator Overloading.
9. Program for Inheritance.
10. Program for Virtual Function and Classes.

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B.C.A. IIIrd Semester Syllabus (CBCS)
Paper No. XV – Business Laws – I

Theory – 80 Marks
Sessional – 20 Marks

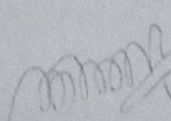
		Periods
Unit - I	Indian Contract Act 1872 : Meaning and Definition of Agreement and Contract, Features of Contract Act, Types of Contract, Essentials of valid contract, Offer and Acceptance, Breach of Contract	(12)
Unit - II	Sell of Goods Act 1930 : Meaning and Important Definition – Sell of Goods Act, Agreement to sell vs. Contract of sell, Essentials of valid contract of sell, Condition and Warranty, Sell by Auction and Hire Purchase Agreement, Buyers and Sellers Rights and Duties.	(12)
Unit - III	Negotiable Instrument Act 1881 : Concept and Important definition of Act, Promissory Note and Cheque, Characteristics of the Act, Dishonor of Negotiable Instrument, Discharge of Negotiable Instrument, Bills of Exchange.	(12)
Unit - IV	Consumer Protection Act (Amended Act 2002) : Meaning and Important Definition Of Act, Significance of Consumer Protection, Objectives of the Act, Working of Consumer Protection Council, Composition of consumer disputes redressal agencies.	(12)
Unit - V	Cyber and IT Act 2000 : Important Definition - IT Act 2000, Cyber Fraud and Cyber Cheating, Copy right – Meaning and Definition, License of the Copy Right, Digital Signature, Digital Signature. Certificate.	(12)

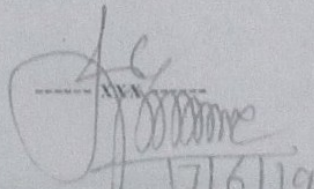
Sessional Works : 20 Marks

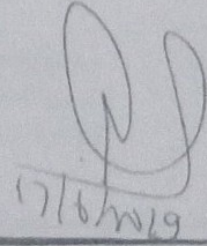
- College can take decisions accordingly.

Reference Books:

1. Business Law – Dr. Nowlakha
2. Mercantile Law – N D Kapoor
3. Indian Contract Act – Dr. Avtarsingh
4. Mercantile and Industrial Law – M.C Shulka
5. Business Law – Maheshwar
6. Company and Business Law – Shukla and Gerwal
7. Commercial and Industrial Law – Kuehal
8. Cyber Law Simplified – Tata McGrawhill Vivek Sood
9. Indian Cyber Law – Suresh T Vishwanathan


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B.C.A. IIIrd Semester Syllabus (CBCS)
Paper No. XVI – DBMS

Theory – 80 Marks
Sessional – 20 Marks

	Periods
Unit - I Introduction (Theory) : Data, Tables, DBMS, Characteristics of DBMS, need of DBMS, attributes, entity, E-R Diagrams, relationships, ODBMS, Two tier and three tier architecture,	(10)
Unit - II Transactions (Theory) : Concept of transaction, ACID properties, Transaction and system concepts, States of transaction, Serializability, backup and recovery.	(08)
Unit - III Concurrency (Theory) : Concurrent transactions, Two -phase locking techniques, Concurrency control, Locking techniques, E-R Diagram, Deadlock	(14)
Unit - IV Normalization (Theory) : E.F. Codd rules, Normal forms based on primary keys(1 NF, 2 NF, 3 NF, BCNF)	(14)
Unit - V MS-Access (Theory/ Practical) : Primary Key, Foreign Key, Creating tables in MS-Access, creating primary key, foreign key and create queries to fetch data.	(14)

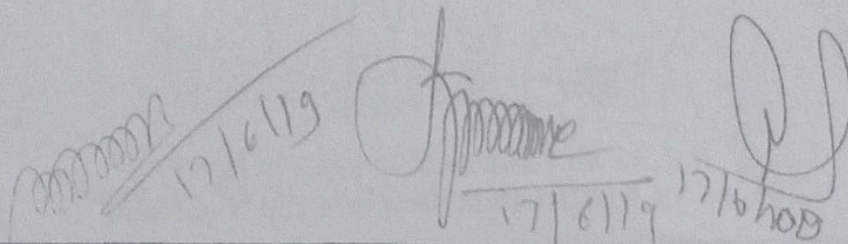
Sessional Works : 20 Marks

- College can take decisions accordingly.

Reference Books :

1. Elmasri&Navathe, Fundamentals of Database systems, Addison &Weisely, New Delhi.
2. H. F. Korth& A. Silverschatz, Database Concepts, Tata McGraw Hill, New Delhi
3. C. J. Date, Database Systems, Prentice Hall of India, New Delhi.
4. Ivan Bayross, SQL,PL/SQL, The programming language of Oracle

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B.C.A. IIIrd Semester Syllabus (CBCS)
Paper No. XVII – E-Business Essential

Theory – 80 Marks
Sessional – 20 Marks

	Periods
Unit - I Introduction to e-business : Origin, Concept, Nature, Definition, Features, Merits, Demerits.	(10)
Unit - II E-business Environment: Information society, building process for communities, multi – option society, ethics in electronic business.	(08)
Unit - III E-business & ICT : Meaning, history, importance of internet, internet v/s online service, basic, knowledge of computer network, world wide web, web page, website.	(14)
Unit - IV E-Business Models & Supply Chain Management : Classification of E business models, definition of supply chain management elements of SC, key issues in SCM.	(14)
Unit - V E-Payments : E-Money and E-payments, different forms of E-payment, E-banking RTGS, NEFT, EFT, Internet Banking, Mobile Banking, GOOGLE PAY, PAYTM etc.	(14)

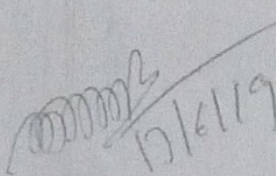
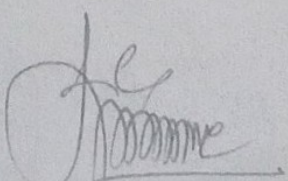
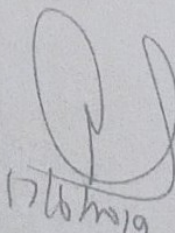
SESSIONAL WORK: 20 Marks

- 1) One test 05 marks
- 2) One tutorial 05 marks
- 3) Online dummy transactions and list of E-commerce websites 10 Marks

Reference Books :

- 1) Rayudu es. E-commerce E-business
- 2) Ravi Kalakos & Marcia Robinson E-business
- 3) Rich, Joson R starting an e-commerce business
- 4) Kamlesh Bajaj Debjani Nag, E-Commerce: The cutting Edge of Business Tata McGraw Hill Publication, new Delhi.
- 5) N.S. Toor, handbook of Banking Information, 28th Edition, Skylark Publication New Delhi.

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B.C.A. IIIrd Semester Syllabus (CBCS)
Paper No. XVIII – Data Structure and Algorithm

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Theory – 50 Marks
Practical's U/A – 50 Marks

		Periods
Unit - I	Introduction to Data Structure : Introduction to Data Structure : Types , Primitive ,Secondary , Simple Compound , Linear and Non Linear Data Structure	(10)
Unit - II	Linear Data Structure : Linear Data Structure : Array , Linked List , Queue, Stacks, Operations on linear Data Structure, Memory Representation of Linear Data Structure	(08)
Unit - III	Non Linear Data Structure : Non Linear Data Structure : Tree , Graphs, Binary Tree Structures , Networks, Operations on Non Linear Data Structure, Implementation of Data Structure in computer memory	(14)
Unit - IV	Algorithms : Algorithm Concept, Features & Characteristics, Designing of Algorithm for Insertion & Deletion of Records in Array, Linked List, Stack, Queue , Traversal of Linked List, Stack, Queue , Binary Tree	(14)
Unit - V	Graph Theory and Sorting : Graph Theory : Terminology, Sequential Representation of Graph, Adjacency Matrix , Linked List Representation of Graph, Operations on Graph , Traversing Graph, Bubble Sort , Selection Sort, Merge Sort and Insertion Sort	(14)

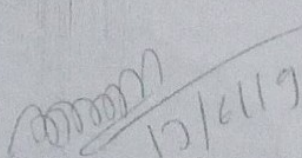
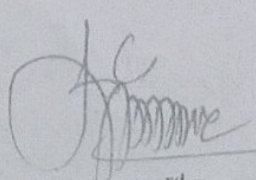
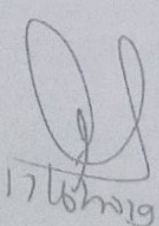
Practical's U/A : 50 Marks

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|--|---|----------|
| 4. One Test | : | 10 Marks |
| 5. Oral | : | 20 Marks |
| 6. Writing of Algorithms in Journal / File | : | 20 Marks |

References Books :

- | | | |
|-----------------------|---|------------------------------|
| 1. Tannenbum | : | Data Structure |
| 2. Seymour LipSchutz | : | Data Structure |
| 3. Aho | : | Data Structure and Algorithm |
| 4. Bhagat Singh & Nap | : | Data & File Structure. |
| 5. Droomy | : | How to solve it by Computer. |

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B.C.A. IIIrd Semester Syllabus (CBCS)
Paper No. XVIII – RDBMS using ORACLE

Theory – 50 Marks
Practical's U/A – 50 Marks

	Periods
Unit - I RDBMS Definition, Characteristics of RDBMS ,Application and advantages of RDBMS, Instances , Schemas and Database States, Three Levels of Architecture , Data Independence, DBMS languages, Data Dictionary, Database Users, Data Administrators. (Theory)	(10)
Unit – II Data Models, types and their comparison, Entity Relationship Model, Entity Types, Entity Sets, Attributes and its types, Keys, E-R Diagram, Data Integrity, Referential Integrity constraints, Domain Integrity Constraints (Theory)	(08)
Unit - III Relational Algebra (selection, projection, union, intersection, Cartesian product, Different types of join like theta join, equi-join, natural join, outer join), Relational Calculas, Functional Dependencies, Good & Bad Decomposition, Anomalies as a database: A consequences of bad design (Theory)	(14)
Unit - IV Introduction to SQL, DDL, DML, and DCL statements, Creating Tables, Adding Constraints, Altering Tables, Update, Insert, Delete & various Form of SELECT-Simple, Using Special Operators for Data Access. Aggregate functions,Joining Multiple Tables (Equi Joins),Joining a Table to itself (self Joins)Functions. (Theory/ Practical)	(14)
Unit - V Introduction to PL/SQL (blocks of PL/SQL, Variables, constants), Control Structure Introduction to Stored Procedures, Functions , Cursor and Triggers (Theory/ Practical)	(14)

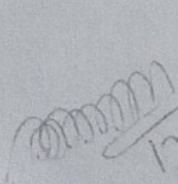
Practical's U/A : 50 Marks

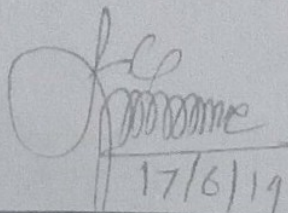
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| 1.One Test | : | 10 Marks |
| 2.Oral | : | 20 Marks |
| 3.Writing of Algorithms in Journal / File | : | 20 Marks |

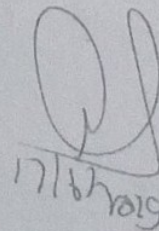
Reference Books :

1. Elmasri&Navathe, Fundamentals of Database systems, Addison &Weisely, New Delhi.
2. H. F. Korth& A. Silverschatz, Database Concepts, Tata McGraw Hill, New Delhi
3. C. J. Date, Database Systems, Prentice Hall of India, New Delhi.
4. Ivan Bayross, SQL,PL/SQL, The programming language of Oracle

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