

**Revised Syllabus of Courses of B.Com. Programme at Semester 5  
with effect from the Academic Year 2018-2019**

**Elective Courses (EC)**

**2. Ability Enhancement Courses (AEC)**

**2. Computer Systems and Applications Paper - I**

**Modules at a Glance**

| <b>Sr. No.</b> | <b>Modules</b>                              | <b>No. of Lectures</b> |
|----------------|---|------------------------|
| 1              | Data Communication, Networking and Internet | 18                     |
| 2              | Database and MySQL                          | 09                     |
| 3              | Database and MySQL                          | 09                     |
| 4              | Spread Sheet                                | 09                     |
| <b>Total</b>   |   | <b>45</b>              |

| Sr. No. | Modules / Units  |
|---------|--|
| 1       | <p data-bbox="320 181 951 215"><b>Data Communication, Networking and Internet</b></p> <p data-bbox="320 226 1398 297"><b>a)</b> Data Communication Component, Data representation, Distributed processing. (Concepts only)</p> <p data-bbox="320 304 804 338"><b>b)</b> Network Basics and Infrastructure</p> <ul data-bbox="368 344 1398 618" style="list-style-type: none"> <li>✓ Definition, Types (LAN, MAN, WAN) Advantages.</li> <li>✓ Network Structures – Server Based, Client server, Peer to Peer.</li> <li>✓ Topologies – Star, Bus, Ring.</li> <li>✓ Network Media, Wired – Twisted Pair, Co-axial, Fiber Optic and Wireless – Radio and Infrared.</li> <li>✓ Network Hardware: Hubs, Bridges, Switches, Routers.</li> <li>✓ Network Protocols – TCP/IP, OSI Model.</li> </ul> <p data-bbox="320 624 469 658"><b>c)</b> Internet</p> <ul data-bbox="368 665 1398 1014" style="list-style-type: none"> <li>✓ Definition, Types of connections, sharing internet connection, Hot Spots.</li> <li>✓ Services on net- WWW, Email-Blogs.</li> <li>✓ IP addresses, Domain names, URLs, Hyperlinks, Web Browsers</li> <li>✓ Searching Directories, Search engines, Boolean search (AND, OR, NOT), Advanced search, Meta Search Engines.</li> <li>✓ Email – POP/SMTP accounts in Email, Different parts of an Email address. Receiving and sending emails with attachments by scanning attachments for viruses.</li> <li>✓ Cyber Crime, Hacking, Sniffing, Spoofing</li> </ul> |
| 2       | <p data-bbox="320 1028 608 1061"><b>Database and MySQL</b></p> <p data-bbox="320 1068 1398 1142"><b>a) Introduction</b> :To Databases, Relational and Non-relational database system MySQL as a Non-procedural Language. View of data.</p> <p data-bbox="320 1149 1398 1608"><b>b) MySQL Basics</b> :Statements (Schema Statements, Data statements, Transaction statements), names (table &amp; column names), data types (Char, Varchar, Text, Mediumtext, Longtext, Smallint, Bigint, Boolean, Decimal, Float, Double, Date, Date Time, Timestamp, Year, Time), Creating Database, inserting data, Updating data, Deleting data, expressions, built-in-functions – lower, upper, reverse length, ltrim, rtrim, trim, left, right, mid, concat, now, time, date, curdate, day, month, year, dayname, monthname, abs, pow, mod, round, sqrt missing data(NULL and NOT NULL DEFAULT values) CREATE,USE, ALTER (Add, Remove, Change columns), RENAME, SHOW, DESCRIBE (CREATE TABLE, COLUMNS, STATUS and DATABASES only) and DROP (TABLE, COLUMN, DATABASES statements), PRIMARY KEY FOREIGN KEY (One and more columns) Simple Validity checking using CONSTRAINTS.</p>  |
| 3       | <p data-bbox="320 1621 608 1655"><b>Database and MySQL</b></p> <p data-bbox="320 1662 1398 1807"><b>a) MySQL Simple queries</b> : The SELECT statement (From, Where, Group By, Having, Order By, Distinct, Filtering Data by using conditions. Simple and complex conditions using logical, arithmetic and relational operators (=, !=, &lt;, &gt;, &lt;&gt;, AND, OR, NOT, LIKE) Aggregate Functions – count, sum, avg, max, min.</p> <p data-bbox="320 1814 1398 1886"><b>b) Multi-table queries:</b> Simple joins (INNER JOIN), SQL considerations for multi table queries(table aliases, qualified column names, all column selections self joins).</p> <p data-bbox="320 1892 1398 2027"><b>c) Nested Queries (Only up to two levels)</b> :Using sub queries, sub query search conditions, sub queries &amp; joins, nested sub queries, correlated sub queries, sub queries in the HAVING clause.<br/>Simple Transaction illustrating START, COMMIT, and ROLLBACK.</p>  |

| Sr. No. | Modules / Units   |
|---------|---|
| 4       | Spread Sheet  |
|         | <p><b>a) Creating and Navigating worksheets and adding information to worksheets</b></p> <ul style="list-style-type: none"> <li>✓ Types of data, entering different types of data such as texts, numbers, dates, functions.</li> <li>✓ Quick way to add data Auto complete, Autocorrect, Auto fill, Auto fit. Undo and Redo.</li> <li>✓ Moving data, contiguous and non-contiguous selections, Selecting with keyboard. Cut-Copy, Paste. Adding and moving columns or rows. Inserting columns and rows.</li> <li>✓ Find and replace values. Spell check.</li> <li>✓ Formatting cells, Numbers, Date, Times, Font, Colors, Borders, Fills.</li> </ul> <p><b>b) Multiple Spreadsheets</b></p> <ul style="list-style-type: none"> <li>✓ Adding, removing, hiding and renaming worksheets.</li> <li>✓ Add headers/Footers to a Workbook. Page breaks, preview.</li> <li>✓ Creating formulas, inserting functions, cell references, Absolute, Relative (within a worksheet, other worksheets and other workbooks).</li> </ul> <p><b>c) Functions</b></p> <ul style="list-style-type: none"> <li>✓ Financial functions: FV, PV, PMT, PPMT, IPMT, NPER, RATE</li> <li>✓ Mathematical and statistical functions. ROUND, ROUNDDOWN, ROUNDUP, CEILING, FLOOR, INT, MAX, MIN, MOD, SQRT, ABS, SUM, COUNT, AVERAGE</li> </ul> <p><b>d) Data Analysis</b></p> <ul style="list-style-type: none"> <li>✓ Sorting, Subtotal.</li> <li>✓ Pivot Tables- Building Pivot Tables, Pivot Table regions, Rearranging Pivot Table.</li> </ul> |

**Note :**

- a) Theory 03 lectures per week.
- b) Practical batch size 20-25, 01 practical = 03 theory lectures per week.
- c) 10 Practical's are to be completed in each semester.

**Semester V**

| Topic           | Number of Practical's |
|-----------------|-----------------------|
| Word processing | 01                    |
| Spread sheet    | 03                    |
| MySQL           | 06                    |

Minimum 6 practical's are to be recorded in the journal in the Semester V  
[Minimum 4 on SQL, 2 on MS-Excel)

***Elective Courses (EC)***

***2. Ability Enhancement Courses (AEC)***

**2. Computer Systems and Applications Paper - II**

***Modules at a Glance***

| <b>Sr. No.</b> | <b>Modules</b>        | <b>No. of Lectures</b> |
|----------------|-----------------------|------------------------|
| 1              | E – Commerce          | 18                     |
| 2              | Advanced Spread Sheet | 09                     |
| 3              | Advanced Spread Sheet | 09                     |
| 4              | Visual Basic          | 09                     |
| <b>Total</b>   |                       | <b>45</b>              |

| Sr. No. | Modules / Units  |
|---------|--|
| 1       | <p data-bbox="320 208 512 237"><b>E – Commerce</b></p> <ul style="list-style-type: none"> <li>a) Definition of E-commerce</li> <li>b) Features of E-commerce</li> <li>c) Types of E-commerce (B2C, B2B, C2C, P2P)</li> <li>d) Business Models in E-commerce (Advertising, Subscription, Transaction Fee, Sales Revenue, Affiliate Revenue)</li> <li>e) Major B2C models (Portal, Etailer, Content Provider, Transaction Broker, Market Creator, Service Provider, Community Provider).</li> <li>f) E-Commerce Security: Integrity, Non repudiation, Authenticity, Confidentiality, Privacy Availability.</li> <li>g) Encryption: Definition, Digital Signatures, SSL.</li> <li>h) Payment Systems: Digital Cash, Online stored value, Digital accumulating balance payment, Digital credit accounts, digital checking.</li> <li>i) How an Online credit card transaction works. SET protocol.</li> <li>j) Limitation of E-commerce.</li> <li>k) M-commerce (Definition and Features).</li> </ul> |
| 2       | <p data-bbox="320 860 639 889"><b>Advanced Spread Sheet</b></p> <ul style="list-style-type: none"> <li>a) <b>Multiple Spread sheets</b> <ul style="list-style-type: none"> <li>✓ Creating and using templates, Using predefined templates, Adding protection option.</li> <li>✓ Creating and Linking Multiple Spreadsheets.</li> <li>✓ Using formulas and logical operators.</li> <li>✓ Creating and using named ranges.</li> <li>✓ Creating Formulas that use reference to cells in different worksheets.</li> </ul> </li> <li>b) <b>Functions</b> <ul style="list-style-type: none"> <li>✓ Database Functions LOOKUP, VLOOKUP, HLOOKUP</li> <li>✓ Conditional Logic functions IF, Nested IF, COUNTIF, SUMIF, AVERAGEIF</li> <li>✓ String functions LEFT, RIGHT, MID, LEN, UPPER, LOWER, PROPER, TRIM, FIXED</li> </ul> </li> </ul>   |
| 3       | <p data-bbox="320 1413 639 1442"><b>Advanced Spread Sheet</b></p> <ul style="list-style-type: none"> <li>a) <b>Functions</b> <ul style="list-style-type: none"> <li>✓ Date functions TODAY, NOW, DATE, TIME, DAY, MONTH, YEAR, WEEKDAY, DAYS360</li> <li>✓ Statistical Functions COUNTA, COUNTBLANK, CORREL, LARGE, SMALL</li> </ul> </li> <li>b) <b>Data Analysis</b> <ul style="list-style-type: none"> <li>✓ Filter with customized condition.</li> <li>✓ The Graphical representation of data Column, Line, Pie and Bar charts.</li> <li>✓ Using Scenarios, creating and managing a scenario.</li> <li>✓ Using Goal Seek</li> <li>✓ Using Solver</li> <li>✓ Understanding Macros, Creating, Recording and Running Simple Macros. Editing a Macro(concept only)</li> </ul> </li> </ul>  |

| Sr. No. | Modules / Units   |
|---------|---|
| 4       | <b>Visual Basic</b>   |
|         | <p>a) Introduction to Visual Basic, Introduction Graphical User Interface (GUI). Programming Language (Procedural, Object Oriented, Event Driven), Writing VB Projects. The Visual Basic Environment</p> <p>b) Introduction to VB Controls<br/>Text boxes, Frames, Check boxes, Option button, Designing the User Interface, Default &amp; Cancel property, tab order, Coding for controls using Text, Caption, Value property and Set Focus method</p> <p>c) Variables, Constants, and Calculations<br/>Variable and Constant, Data Type (String, Integer, Currency, Single, Double, Date), Naming rules/conventions, Constants (Named &amp; Intrinsic), Declaring variables, Val Function, Arithmetic Operations, Formatting Data.</p> <p>d) Decision and Condition<br/>Condition, Comparing numeric variables and constants, Comparing Strings, Comparing Text Property of text box, Compound Conditions (And, Or, Not). If Statement, if then-else Statement, LCase and Ucase function, Using If statements with Option Buttons &amp; Check Boxes. MsgBox (Message box) statement Input Validation : Is Numeric function.</p> <p>e) Sub-procedures and Sub-functions, Using common dialog box, Creating a new sub-procedure, Writing a Function procedure. Simple loops using For Next statements and Do while statement and display output using MsgBox Statement.</p> |

**Note :**

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- c) 10 Practical's are to be completed in each semester.

**Semester VI**

| Topic                        | Number of Practical's |
|------------------------------|-----------------------|
| Presentation skills          | 01                    |
| Advanced Spread Sheet        | 06                    |
| Introduction to Visual Basic | 03                    |

Minimum 6 practical's are to be recorded in the journal in the Semester VI  
[Minimum 4 on VB, 2 on Advanced Spread Sheet]

❖ **Suggested list of Practical's for Semester VI**

1. Preparing a PowerPoint presentation on an E-Commerce website.
2. Calculation of DA, HRA, PF, Gross Salary and Net Salary using Spread Sheet
3. Calculation of Income Tax using Spread Sheet
4. Filtering data and Graphical representation of data using Spread Sheet
5. Using VLOOKUP and HLOOKUP using Spread Sheet
6. Creating and managing a scenario using Spread Sheet
7. Use of Goal Seek and Solver using Spread Sheet