Assignment for

Odd Semester of

PGDCA/M.Sc. Computer Science/ MCA

(Through Distance Education)

For session 2015-2016

Directorate of Distance Education

Guru Jambeshwar University of

Science & Technology, Hissar

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Important Instructions

Assignments are integral parts of course work of any programme of study in Distance Education of this university. The purpose of preparing and evaluating the assignments is to get the students acquainted with the theoretical and practical dimensions of the topics or area of study or the course work. The questions for the assignments are designed in a way to enhance the analytical skills of the students. The following are some important points to consider while preparing and evaluating the assignments.

1. All assignments should be legible and written in candidate's own handwriting on A4 size paper.
2. Answers should be appropriate, focused, legible and clean.
3. All questions are compulsory & carry equal marks.
4. Study centers are required to get these evaluated by the university approved subject evaluators only.
5. Study centers are also required to maintain a complete and proper record of assignments and will keep the assignments in physical form till the declaration of result of the student concerned.
6. The University has the right to monitor, inspect or check this record any time.
7. The study centers are also required to submit evaluation/award sheets in sealed cover /online in proper format and keep one copy of the same for record as per the schedule already notified.

Programme: PDGDCA **SEM: 1st**

Course: Introduction to IT **Code: MS-01**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **What is Network? Explain topologies of Network in detail and need of Network.**
2. **What are storage device? Explain in detail? Give example of some storage devices with their working?**
3. **Write a Short note on Search Engine?**
4. **Write a short note on assembler and compiler? What is role of loader?**
5. **Differentiate between LAN & WAN? How both these are differ from MAN?**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **Difference between Procedure oriented language and object oriented Language?**
2. **Explain components of Computer system? Write down block diagram of all components along with their interconnection with each other unit?**
3. **Explain the following :**
    a. **Five commands of DOS**
    b. **GUI**
    c. **Netware**
    d. **Application of IT in EDUCATION & Banking**
    e. **Gopher**
4. **Explain wide range of computer applications in various fields? At least give example of five major fields?**
5. **Differentiate between encapsulation and inheritance, with the help of example?**

Programme: PDGDCA **SEM: 1st**

Course: Computer Programming and Problem Solving **Code: MS-02**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **What is the significance of algorithms and flowcharts in solving problems? What are the major characteristics of a good algorithm and flow chart?**
2. **What is the role of an array and its type in C? How array can be declared, read and displayed with help of syntax and example? Also give the memory representation of an array by taking example?**
3. **What is the role of operators in C? Describe various types and precedence of operators?**
4. **WAP of multiplication of two matrices?**
5. **Why pre processor directives are needed, explain? With the help of example?**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **What do you mean by storage classes? Explain various storage classes available in 'C' by giving an example?**
2. **Define Pointer and how it is use in C? WAP to swap two numbers by using concept of call by value and call by reference?**
3. **Describe the concept of file in 'C'. Also explain the various operations performed on file with example?**
4. **WAP to find out third largest no out of a given 10 elements of array?**
5. **What is difference between macro and sub program? Show with the help of example?**

Programme: PDGDCA **SEM: 1st**

Course: Digital Electronics **Code: MS-03**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **Differences between Sequential and Combinational circuits. ?**
2. **Solve it- ABC+ABC+ABC+ABC=AB+BC+CA ?**
3. **Explain full sub tractor and full adder with logic diagram?**
4. **Construct logic unit diagram for exclusive OR function by using**
   a) **NAND GATE only**
   b) **NOR GATE only**
5. **Convert the following:**
   a. $(1110101)_2 = (?)_{10}$
   b. $(684)_{10} = (?)_{16}$
   c. $(1024)_{10}$ = **Gray Code**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **Discuss the characteristics of digital IC's?**
2. **Solve the following using K-MAP :**
   y(abcd)=∑(0,1,2,3,4,6,12,14)+ ∑d(8,9,10,11)
3. **Explain Master/Slave flip flop and A/D Converter?**
4. **Design an S-R latch using two input NOR gates?**
5. **Write a short note on:**
   a) **TTL**
   b) **CMOS**
   c) **MOS**

Programme: PDGDCA **SEM: 1st**

Course: System Analysis & Design **Code: MS-04**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **Define the following terms :**
   (a) Gantt chart
   (b) HIPO Chart
   (c) Structure Chart
   (d) PERT Chart
2. **Explain various Preliminary investigation activities in project selection?**
   Explain the role of System Analyst?
3. **Construct a data flow diagram (level 0 and 1) for a library management system. Also draw the respective ERDs for it.**
4. **Define Maintenance and Testing? Explain its types?**
5. **Differentiate between Top down and bottom up parsing techniques? Explain with the help of example? Designing of software uses which type of technique? Justify your answer?**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **What is System Implementation? Explain conversion methods and also gives their advantages and disadvantages?**
2. **What is Database and Database management system? What are the objectives of database system?**
3. **Explain feasibility study and what is impact of social feasibility?**
4. **What are the objectives of preliminary investigation? List and explain the methods to gather the data during the preliminary investigation?**
5. **Write a short note on :**
   a) **Post implementation review**
   b) **System control**
   c) **Audit trail**

Programme: M.Sc. (Computer Science) **Sem: 3rd**

Course: RDBMS **Code: MS-11**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **What is a DBMS? State its Advantages and Disadvantages?**
2. **What are Primary Key, Candidate Key, Foreign Key, Super Key and Secondary Key?**
3. **What is concurrency control? What are various issues related to concurrency issues?**
4. **Why data control language is used, explain?**
5. **What is relation? What is difference between table and an attribute?**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **Explain locking techniques for concurrency control based on timestamp ordering?**
2. **What is normalization? Explain 3rd Normal Form and BCNF in detail? What is BCNF? Explain with an example how is it different from 3NF?**
3. **Explain in detail about database administrators and database users. Explain E-R Model in detail? With help of its various symbols and example?**
4. **a)Give SQL statement which creates a student table consisting of following fields: name char (40), class char (4), marks num (6), rank char (8)?**
   b) What is Log? Explain how Logs are created in DBMS. Also explain log based recovery in databases.
5. **Explain the concept of cardinality? Explain type of relationship between following:**
   a) **Student and id card**
   b) **Customer and bank**
   c) **customer and car**

Programme: M.Sc. (Computer Science) **Sem: 3rd**

Course: Software Engineering **Code: MS-12**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **What is Software and its characteristics? What do you mean by the term software engineering? What is the need of software engineering?**
2. **Describe RAD model and Spiral model for software development. Explain Advantages &Disadvantages of them?**
3. **What are objective of requirement analysis? Why do we compute expected value for software size?**

ASSIGNMENT (PART-II)

Max Marks: 5*3=15

1. **What is Software Design? Explain the role of Coupling &Cohesion in arising good software design?**
2. **Define the following terms**
   a) **Software Quality**
   b) **SQA**
   c) **SQAP**
3. **Write short note on any two:**
   a) **System flow diagram**
   b) **Verification and Validation**
   c) **s/w Version Control**
   d) **Project Scheduling (Any one technique)**

Programme: M.Sc. (Computer Science) **Sem: 3rd**

Course: Computer Graphics **Code: MS-13**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **What is multimedia contents, hypertext, hypermedia, authoring tools and application of multimedia?**
2. **What is Bezier curve and B-splines curve and give its properties?**
3. **What is polygon clipping? And Explain Sutherland Hodgeman algorithm?**
4. **Write note on 3D object re presentation?**
5. **Explain DDA line drawing algorithm? Also state its drawback?**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **What is transformation? What is Normalized & Workstation Transformation?**
2. **What is Perspective and Parallel Projection? Explain its types?**
3. **What is hidden Lines? And give its principle. Explain Scan Line algorithm?**
4. **Explain the following terms:**
   a) **Morphing**
   b) **Cel Animation**
5. **Differentiate between the following :**
   a) **Bitmap graphics and vector graphics**
   b) **Hypertext and Hypermedia**

Programme: M.Sc. (Computer Science) **Sem: 3rd**

Course: Management Information System **Code: MS-14**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **Define Management information system with its various features. Also explain why MIS is used as a strategic need of management today? Why do managers plan? Explain?**
2. **Discuss system implementation and its various implementation strategies for implementing MIS.**
3. **Define following terms:**
   a) **Effective Management and Efficient Management**
   b) **Balance**
4. **Explain concept of Information and types of information? Explain type of information required at different level of management?**
5. **Explain the process of business decision making according to Simon's model?**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **List various types of feasibility that are tested in the process of new/revised system?**
2. **What are various development tools available at each stage of mgmt information system development process?**
3. **What are myths MIS?**
4. **What is system maintenance? What are the reasons for maintenance requirement?**
5. **What are the various tools available for implementation of MIS? List out the pro's and con's of traditional tool and automated tools?**

Programme: MCA **SEM: 5th**

Course: Data Warehousing and Data Mining **Code: MS- 31**

Max Marks: 3*5=15

ASSIGNMENT (PART I)

1. **What is Data Warehouse? Explain its architecture?**
2. **What do you mean by Data Mining? Explain various data mining applications in detail? And also, explain importance and classification of data mining systems?**
3. **What do you mean by tuning and testing? How is it useful in data warehouse?**
4. **State the advantages of decision tree approach over other approaches for performing classification? Also explain other approaches of classification?**
5. **Write down short note on:**
    a) **Bayesian Classification**
    b) **Classification by decision tree induction.**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **Enumerate three classes of schemes that are popularly used for modeling data warehouses?**
2. **Write a priori algorithm for discovering frequent item sets for mining single dimensional Boolean association rule?**
3. **Explain Association Rules and Data Reduction with example?**
4. **Explain various presentation technique used for visualization of discovered patterns?**
5. **Write down short note on:**
    a) **Data cube technology**
    b) **OLAP technology**

Programme: MCA **SEM: 5th**

Course: C Sharp (C#) **Code: MS- 32**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **What is interface? Give the relation between Inheritance and Interface.**
2. **Explain various decision making and branching statements.**
3. **Differentiate Between Boxing and Unboxing?**
4. **Explain features C# sharp over C language?**
5. **Write short note on**
   a) **Overriding**
   b) **Inheritance**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **Describe NGWS Component and XML?**
2. **Explain .Net framework and application of C#?**
3. **Explain method overloading and Indexer with example?**
4. **Explain exception handling with example?**
5. **Explain types of polymorphism? Which method is used in derived class during polymorphism?**

Programme: MCA **SEM: 5th**

Course: Advanced Computer Architecture **Code: MS- 33**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **What is pipe lining? Explain Arithmetic and Instruction pipeline.**
2. **What are vector processors? Explain functional unit of vector processor?**
3. **What are the approaches used in hardware multithreading? Define Hyper Threading Technology with its features and functionality.**
4. **Explain dataflow architecture? Explain classification of mapping?**
5. **Differentiate between:**
   a) **MIMD and SISD**
   b) **Multiprocessors and Multicomputer**
   c) **RISC and CISC**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **What is cache memory? Explain addressing mode of cache memory. What are the factors on which cache miss depends?**
2. **Describe inclusion, coherence and locality of reference in context with memory hierarchy?**
3. **What is virtual memory and why it is needed? Discuss various address translation mechanism in a virtual memory environment?**
4. **Explain the following basic concepts :**
   a) **Program**
   b) **Process**
   c) **Thread**
   d) **Concurrency**
5. **Explain the following :**
   a) **Vector processing**
   b) **Array processing**

Programme: MCA **SEM: 5th**

Course: High Speed Network **Code: MS- 34**

Max Marks: 3*5=15

ASSIGNMENT (PART-I)

1. **Write a short note on:**
   a) **ATM v/s GIGABIT ETHERNET.**
2. **Explain ATM Reference Model and ATM Cell format with the help of diagram?**
3. **What do you mean by term Audio and Video Compression? Explain its Techniques and Write about MPEG?**
4. **Write a short note on:**
   a) **FDDI**
   b) **Virtual LAN?**
5. **Explain following in fiber channels:**
   a) **Port**
   b) **Topologies**
   c) **Protocols**

ASSIGNMENT (PART-II)

Max Marks: 3*5=15

1. **Explain the following DSL Services:**
   (a)ADSL (b) HDSL (c) VDSL
2. **Explain Frame format, Protocol Architecture and Routing in Frame Relay?**
3. **Differentiate b/w Connectionless and Connection Oriented Protocol?**
4. **List two ways in OSI reference model and TCP /IP models are same? Now list two ways in which they differ?**
5. **What is principal difference between connectionless communication and connection oriented communication?**