

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR

DIRECTORATE OF DISTANCE EDUCATION

ASSIGNMENT FOR ODD SEMESTERS

Session 2015-16

(PGDCA/MCA/MSC (CS))

SEMSTER – 1st

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: PGDCA/MCA/MSC (CS)

Course: Introduction to Information Technology

Sem.:1st

Code: MS-01

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
- ii. All questions are to be attempted in legible handwriting on plane white A-4 size paper is to be submitted to the Directorate of Distance Education for evaluation either in person or through Speed Post.**

ASSIGNMENT-I

- | | |
|--|-------|
| Q1. Write in Brief on the following: | 2x3=6 |
| a. Joystick | |
| b. Light pen | |
| c. Touch Screen | |
| Q2. Machine language is rarely used nowadays. Justify. | 3 |
| Q3. What is URL? Discuss the typical structure of a URL. | 4 |
| Q4. Differentiate between OS and application software. | 2 |

Prepared By: Narender Kumar
Assistant Professor
Deptt.of CSE
GJUS&T, Hisar

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
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Programme: PGDCA/MCA/MSC (CS)

Course: Introduction to Information Technology

Sem.:1st

Code: MS-01

Total Marks=15

Important Instructions

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ASSIGNMENT-II

- | | | |
|-----|---|---|
| Q1. | How many bytes will be there in a 20GB hard disk? | 2 |
| Q2. | How IT plays an important role in weather forecasting? | 3 |
| Q3. | Discuss the main functions of an OS. | 2 |
| Q4. | Differentiate between peer to peer network and client-server network. | 3 |
| Q5. | Write a program to illustrate the concept of polymorphism. | 5 |

**Prepared By: Narender Kumar
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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: PGDCA/MCA/MSC (CS)

Course: Computer Programming and Problem Solving

Sem.: 1st

Code: MS-02

Total Marks=15

Important Instructions

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ASSIGNMENT-I

1. Different type of operators used in C with example?
2. Define the concept of call by value and call by reference by help of a program?
3. What are the different types of operation used on files and write the syntax for all the operations?

5x3=15

Prepared By: VinodGoyal
Assistant Professor
GJUS&T, Hisar

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: PGDCA/MCA/MSC (CS)

Course: Computer Programming and Problem Solving

Sem.: 1st

Code: MS-02

Total Marks=15

Important Instructions

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ASSIGNMENT-II

1. WAP to read a positive number and reverse it?
2. Write a program multiplication of two matrixes?
3. Write a program by using strcpy() and strlen ()?

3x5=15

**Prepared By: VinodGoyal
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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: PGDCA/MCA/MS (CS)

Course: Digital Electronics

Sem.: 1st

Code: MS-03

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-I

- Q1. Compare the asynchronous and synchronous counter. How many flip-flops and AND gates are needed for Mod-64 synchronous counter. 3
- Q2. Draw the circuit of a 5-bit ring counter using D flip-flops. 6
- Q3. Use K-map to simply the following expression. Draw logic circuit for simplified expression. 6
- $F(A,B,C,D) = ABCD + AB\bar{C}D + \bar{A}\bar{B}C + A\bar{C} + \bar{A}$

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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: PGDCA/MCA/MSC (CS)

Course: Digital Electronics

Sem.: 1st

Code: MS-03

Total Marks=15

Important Instructions

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ASSIGNMENT-II

- Q1. Perform the arithmetic operations $(+42) + (-13)$ and $(-42) - (-13)$ in binary using the signed-2's complement representation for negative numbers. 4
- Q2. A. How many 128x8 RAM chips are needed to provide a memory capacity of 2048 bytes. 2
B. How many lines of the address must be used to access 2048 bytes? How many of these lines are connected to the address input of all chips? 2
C. How many lines must be decoded for the chip-select inputs? Specify the size of the decoder. 2
- Q3. What is dual slope A/D converter? Draw its circuit and explain its working. 5

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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: PGDCA/MCA/MSC (CS)

Course: System Analysis and Design

Sem.: 1st

Code: MS-04

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-I

- | | | |
|-----|---|---|
| Q1. | Explain system Development Life Cycle. | 5 |
| Q2. | Discuss Technical and Economical Feasibility. | 5 |
| Q3. | Discuss various Fact-Finding Techniques. | 5 |

**Prepared By: Sunila Godara
Assistant Professor
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: PGDCA/MCA/MSC (CS)

Course: System Analysis and Design

Sem.: 1st

Code: MS-04

Total Marks=15

Important Instructions

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ASSIGNMENT-I

- | | |
|--|---|
| Q1. Explain Cost/Benefit Analysis. | 5 |
| Q2. Describe I/O design. | 5 |
| Q3. Explain Reliability and Maintenance. | 5 |

**Prepared By: Sunila Godara
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SEMSTER – 3rd

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA/MS (CS)

Course: Relational Database Management System

Sem.: 3rd

Code: MS-11

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-I

- Q1. What problems are caused by data redundancies? Can data redundancies be completely eliminated when the database approach is used? Why or why not? 4
- Q2. Given $\mathbf{R}\{ABCDE\}$ and $\mathbf{F} = \{ A \rightarrow B, BC \rightarrow D, D \rightarrow BC, DE \rightarrow \phi \}$. Are there any redundant FDs in \mathbf{F} ? If so, remove them and decompose the relation \mathbf{R} into 3NF relations. 7
- Q3. Explain the need for the two-phase commit protocol. Then describe the two phases. 4

**Prepared By: Dr.Dharmender Kumar
Associate Professor
Deptt.of CSE
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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: MCA/MSC (CS)

Course: Relational Database Management System

Sem.: 3rd

Code: MS-11

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-II

- Q1. Are weak entities necessary? What is the distinction between a weak entity and a strong one? Can a weak entity be converted to a strong entity? **4**
- Q2. Given $\mathbf{R}\{ABCDE\}$ and the set of FDs on \mathbf{R} given by $\mathbf{F} = \{AB \rightarrow CD, ABC \rightarrow E, C \rightarrow A\}$. What is the \mathbf{X}^+ , where $\mathbf{X} = \{ABC\}$? What are the candidate keys of \mathbf{R} ? In what normal form is \mathbf{R} ? **5**
- Q3. Explain about transaction log. **3**
- Q4. Explain Transaction transparency **3**

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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: MCA/MSC (CS)

Course: Software Engineering

Sem.: 3rd

Code: MS-12

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-I

- | | | |
|-----|--|-------|
| Q1. | What is the role of a user participation in the selection of a life cycle model? | 2 |
| Q2. | Define module cohesion and explain different types of cohesion. | 3 |
| Q3. | A. What is the importance of language level in Halstead theory of Software science? | 2 |
| | B. For a program with numbers of unique operators' $\eta_1 = 20$ and unique operands $\eta_2 = 40$. | |
| | Compute the followings: | 2x4=8 |
| | i. Program volume | |
| | ii. Effort and time | |
| | iii. Program length | |
| | iv. Program level | |

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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: MCA/MSC (CS)

Course: Software Engineering

Sem.: 3rd

Code: MS-12

Total Marks=15

Important Instructions

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ASSIGNMENT-II

- Q1. What is a test case? Can it be generated automatically? 2
- Q2. Assume that a program will experiences 150 failures in infinite time. It has now experienced 80. The initial failure intensity was 10 failures/CPU hr. 3X3=9
- i. Determine the current failure intensity
 - ii. Calculate the failures experienced and failure intensity after 25 and 40 CPU/hrs. of execution.
 - iii. Compute additional failures and additional execution time required to reach the failure intensity objective of 2 failures/CPU hr.

Use the basic execution time model for the above mentioned calculations.

- Q3. Define coupling and explain different types of coupling. 4

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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA/MS (CS)

Course: Computer Graphics

Sem.: 3rd

Code: MS-13

Total Marks=15

Important Instructions

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ASSIGNMENT-I

Q1. What steps are required to scan convert an arc using the trigonometric method.

4

Q2. How does the Z-Buffer algorithm determine which surface are hidden?

3

Q3. Briefly explain the adverse effects of scan conversion.

4

Q4. Magnify the triangle with vertices A(0,0), B(1,1) and C(5,2) to twice its size while keeping C(5,2) fixed.

4

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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA/MSC (CS)

Course: Management Information System

Sem.: 3rd

Code: MS-14

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-I

1. Define information, types of information, source of information and how information is different from knowledge?
2. Define different types of development tools used in Management Information System?
3. Define limitation of Management Information System? 5x3=15

**Prepared By: VinodGoyal
Assistant Professor
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA/MS (CS)

Course: Management Information System

Sem.: 3rd

Code: MS-14

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-II

1. Explain by giving an example showing the implementation of Management Information System with all steps over the traditional Information System? 15

**Prepared By: VinodGoyal
Assistant Professor
GJUS&T, Hisar**

SEMSTER – 5th

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA

Course: Data Warehousing and Data Mining

Sem.: 5th

Code: MS-31

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT –I

Q.1 what do you mean by Data Warehouse and Data Mining? Explain Conceptual data architecture.

Q.2 Differentiate between Temporal database, sequence data base and time series data base.

Q.3 Explain different classification of data mining system. Also illustrate data integration and data transformation.

5x3=15

**Prepared By: Amandeep
Assistant Professor
Deptt.of CSE
GJUS&T, Hisar**

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA

Course: Data Warehousing and Data Mining

Sem.: 5th

Code: MS-31

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT -II

Q.1 what do you understand by data preparation? Explain different types of data preparation.

Q.2 Explain three-tier data warehouse architecture. What is OLAP queries system? Also explain the association and its different rules.

Q.3 what is data classification? Explain naive Bayesian classification.

5x3=15

**Prepared By: Amandeep
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA

Course: C Sharp (C#) Programming

Sem.: 5th

Code: MS-32

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-I

- Q1. List the advantages supported by the .NET Framework.
- Q2. What are the command line arguments? How are they useful?
- Q3. When do you use the modifier internal to a class member?
- Q4. All the members of an interface are implicitly abstract. What is the implication of this?
- Q5. What is the purpose of using a finally block? Give some examples. 3x5=15

**Prepared By: Dr.Dharmender Kumar
Associate Professor
Deptt.of CSE
GJUS&T, Hisar**

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA

Course: C Sharp (C#) Programming

Sem.: 5th

Code: MS-32

Total Marks=15

Important Instructions

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ASSIGNMENT-II

Q1. List the tools provided by .NET Framework for managing the user and application interfaces.

Q2. What is the importance of the Main method in a c# program?

Q3. What is late binding? How is it achieved?

Q4. Can an abstract class implement interfaces? If yes, how are the interface methods implemented?

Q5. When do we use a parameter less catch handler? 3x5=15

**Prepared By: Dr.Dharmender Kumar
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Deptt.of CSE
GJUS&T, Hisar**

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA

Course: Advanced Computer Architecture

Sem.: 5th

Code: MS-33

Total Marks=15

Important Instructions

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ASSIGNMENT-I

Q.1 what do you mean by Flynn's classification? Explain pipelining and super-scaling pipelining architecture?

Q.2 Differentiate between the following:

- (i) RISC & CISC.
- (ii) CRISC & VLIW architecture.
- (iii) Static & dynamic dataflow computers.

Q.3 what do you understand by cache memory? Explain different cache organization scheme.

5x3=15

**Prepared By: Amandeep
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA

Course: Advanced Computer Architecture

Sem.: 5th

Code: MS-33

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-II

- Q.1 what is Cache coherence problem? Explain different Page replacement policies in Cache memory.
- Q.2 what is vector memory? Explain gamma and Binomial model.
- Q.3 what is multithreading? Differentiate between multi context processor and multi dimensional architecture.

5x3=15

**Prepared By: Amandeep
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: PGDCA/MCA/MS (CS)

Course: High Speed Networks Programming

Sem.: 5th

Code: MS-34

Total Marks=15

Important Instructions

- i. Attempt all questions from the assignment given below.**
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ASSIGNMENT-I

- Q.1. What are the needs of High Speed Networks? Explain with their performance attributes?
- Q.2. Define Fast Ethernet IEEE 802.2e? Explain with its Frame Format?
- Q.3. Explain the following terms:-
- a) Gigabit Ethernet.
 - b) FIDDI (Fiber distributed data interface)
- Q.4. Explain Frame Relay Network with its frame format?
- Q.5. What do you mean by ISDN? Explain with its Frame Format.

3x5=15

**Prepared By: Krishan Kumar Ranga
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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: PGDCA/MCA/MSC (CS)

Course: High Speed Networks Programming

Sem.: 5th

Code: MS-34

Total Marks=15

Important Instructions

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ASSIGNMENT-II

Q.1. Explain the following terms:-

- a) RSVP
- b) Virtual LAN's
- c) Video- Conferencing

Q.2. Define ATM (Asynchronous Transmission Mode) switches? Explain with diagram?

Q.3. Differentiate between

- a) DSL Vs. ADSL
- b) HDSL Vs. VDSL

Q.4. Define RADSL? Explain the effect of RADSL in High Speed Networks?

Q.5. Define the Terms:-

- a) Traffic Management.
- b) Device Management.

3x5=15

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