

5022-15-862-011

FACULTY OF SCIENCE
M.C.A II – SEMESTER REGULAR/BACKLOG EXAMINATIONS, MAY 2016
ACCOUNTING AND FINANCIAL MANAGEMENT
PAPER – I

Code No.1721/BL

-2-

Time: 3 hours]

Note: Answer all questions from Section – A and Section – B

[Max. Marks: 70

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Write the Double Entry System Principles
2. Write about Turnover Ratio
3. What is Working Capital?
4. Define Cost of Capital
5. Define Absorption Costing

Section – BAnswer the following questions in not more than **FOUR** pages each:

(5x10=50)

6. a) Explain Accounting Postulates

(OR)

- b) Journalize the following transactions and prepare the cash account.

2008 May 1	Commenced business with cash	Rs. 20,000
3	Bought goods from Rosi	Rs. 3,000
5	Paid to Rosi	Rs. 2,000
9	Bought goods from Suresh	Rs. 2,000
12	Purchased goods from Hari	Rs. 1,500
15	Furniture purchased for cash	Rs. 2,000
18	Paid to Ram	Rs. 2,000
20	Purchased stationery for cash	Rs. 8,000
22	Goods sold to Ramesh	Rs. 6,000
25	Paid Wages	Rs. 2,600
27	Paid Rent	Rs. 2,400
28	Received from Ramesh	Rs. 8,000

7. a) Write the uses of financial statement analysis.

(OR)

- b) From the following Balance sheet of a company, you are required to calculate solvency ratio, Current Ratio and quick Ratio and give your comment

Balance Sheet as on 31st December 2010

Liabilities	Rs.	Assets	Rs.
Equity capital	50,000	Fixed Assets	60,000
Fixed Liabilities	25,000	Current Assets	40,000
	25,000	(including Stock of Rs.10,000)	
Current Liabilities	1,00,000		1,00,000

8. a) What is the goal of inventory management? Why do we depart from the goal of share holders wealth maximization? (OR)

- b) Prepare an estimate of working capital requirement from the following information of a trading concern.

Project annual sales	100000 units
Selling price	Rs. 8 per unit
Percentage of net profit on sales	25%
Average credit period allowed to customers	8 weeks
Average credit period allowed by suppliers	4 weeks
Average stock holding in terms of sales requirement	12 weeks
All 10% for contingencies.	

9. a) What is Capital Budgeting? Examine its need and importance.

(OR)

- b) The shares of a company are selling at Rs.40 per share and it had paid a dividend of Rs.4 per share last year the investors market expects a growth rate of 5% per year.

i) Compute the company equity cost of capital

ii) If the anticipated growth rate is 7% per annual, calculate the indicated market price per share.

10. a) What do you understand by the term budget? Write the characteristics of a good budget.

(OR)

- b) You are required to calculate P/V Ratio Fixed Cost from the following information.

Sales Rs. 2,00,000
Profit Rs. 20,000
Variable Cost 60%

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[PTO]

FACULTY OF SCIENCE
MCA II - SEMESTER REGULAR EXAMINATIONS, AUG/SEP-2017
ACCOUNTING AND FINANCIAL MANAGEMENT

PAPER - 01

Time: 3 Hours]

[Max. Marks: 70]

Note: Answer all questions from Section - A and Section - B

Section - A

(5×4=20)

Answer the following questions in not more than **ONE** page each:

1. Describe the Convention of Conservation.
2. Write about the Profitability Ratios.
3. Define Inventory.
4. Define Capital Budgeting.
5. Discuss Budgeting Vs forecasting.

Section - B

(5×10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain in detail about the Accounting Cycle.
(OR)

b) Journalize the following transactions and prepare the cash account, 2008 May 1 commenced business with Rs. 20,000 cash

3 Bought goods from Rosi	Rs. 3,000
5 paid to Rosi	Rs. 2,000
9 bought goods from Suresh	Rs. 2,000
12 Purchased goods from Hari	Rs. 1,500
15 Furniture purchased for cash	Rs. 2,000
18 paid to Ram	Rs. 2,000
20 Purchased stationery for cash	Rs. 8,000
22 Goods sold to Ramesh	Rs. 6,000
25 paid wages	Rs. 2,600
27 paid rent	Rs. 2,400
28 Received from Ramesh	Rs. 8,000

7. a) Write the advantages and Limitations of Ratio Analysis.
(OR)

b) From the following balance sheet of a company, you are required to calculate solvency ratio, Current Ratio and Quick Ratio and give your comment.

BALANCE SHEET 31st DECEMBER 2010

Liabilities	Rs.	Assets	Rs.
Equity capital	50,000	Fixed Assets	60,000
Fixed Liabilities	25,000	Current Assets	40,000
		(including stock of Rs. 10,000)	
Current Liabilities	25,000		
	<u>1,00,000</u>		<u>1,00,000</u>

P.T.O

8. a) Write the differences between Funds flow and Cash flow statement analysis.
(OR)

b) Prepare an estimate of working capital requirement from the following information of a trading concern.

Project annual sales	1,00,000 units.
Selling Price	Rs. 8 per unit
Percentage of net profit on sales	25%
Average credit period allowed by suppliers	8 weeks
Average stock holding in terms of sales requirement	4 weeks
All 10% for contingencies	12 weeks

9. a) Explain the Nature & Concept of Capital Budgeting.
(OR)

b) From the following information you are required to compute the weighted Average Cost of Capital.

Sources of Funds	Amount	After-Tax Cost (%)
Debt	15,00,000	5%
Pref. Shares	12,00,000	10%
Equity Shares	18,00,000	12%
Retained Earnings	15,00,000	11%

10. a) Distinguish between Variable Costing & Absorption Costing.
(OR)

b) The expenses budget for production of 10000 units in a factory is furnished per unit below:

	Rupees in per unit
Materials	70
Labour	25
Variable Factory Overheads	20
Fixed Factory overheads (Rs. 1,00,000)	10
Variable Expenses (Direct)	05
Selling Expenses (10% Fixed)	13
Distribution Expenses (20% Fixed)	07
Administration Expenses (Rs. 50,000)	05
Total cost of sales per unit	05
You are required to prepare a budget for the production of 8,000 units.	

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FACULTY OF SCIENCE
MCA II – SEMESTER REGULAR EXAMINATIONS, AUGUST 2015
MANAGEMENT INFORMATION SYSTEMS
PAPER – 03

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Write a short note on Information Technology.
2. Discuss the Applications of Operational Information Systems.
3. Give a short note on Need of Planning.
4. Discuss about the components of Decision Support System.
5. Write about MIS centralization.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain the models of Organization Structure.
(OR)
b) Discuss in detail about Strategic Production Information System.
7. a) Write a note on Nature of Tactical and Strategic Information system to Business.
(OR)
b) Explain the characteristics of Information Technology.
8. a) Discuss the objectives of Planning in Information system.
(OR)
b) Explain the procedure of application development for system building.
9. a) Discuss about GDSS.
(OR)
b) Discuss in detail about the components of Decision Support System.
10. a) Discuss the Ethical issues in MIS.
(OR)
b) Discuss about in detail about MIS De-centralization.

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M.C.A. II – SEMESTER BACKLOG EXAMINATIONS, MAY, 2016
MANAGEMENT INFORMATION SYSTEM

PAPER – III

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Write about Benefits of MIS
2. What is an Operational Information System?
3. Write about SDLC
4. Write about DSS
5. Mention the Ethical issues in Management of Information System

Section – B

Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a) Explain the Strategic uses of Information Technologies.
(OR)
b) Explain Business Process in Information Technology.
7. a) Explain various components of Strategic Information Planning.
(OR)
b) Explain various applications of Operational Information System to Business.
8. a) Explain various steps in Information System Planning.
(OR)
b) Write about Alternative Application Development.
9. a) Explain the Conceptual Model of DSS.
(OR)
b) Write about Knowledge Management in an Organization.
10. a) Explain about Information System Security and Control.
(OR)
b) Explain about Managing firm Infrastructure and Enterprise System.

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M.C.A. II – SEMESTER BACKLOG EXAMINATIONS, MAY 2017
MANAGEMENT INFORMATION SYSTEM

PAPER – III

Time: 3 hours]

[Max. Marks: 70

Note: Answer all the following question from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. What is the difference between Data and Information.
2. Write briefly about Tactical Production information system.
3. What are the functions of project management and control?
4. What are the characteristics of GDSS?
5. Explain about common controls.

Section – B

Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a) i) Explain about the activities of the organization?
ii) How does Information Technology support business activities.
(OR)
b) Explain the usage of system approach in problem solving.
7. a) Write about operational marketing information systems in detail.
(OR)
b) What is the use of Tactical Human Resource Information Systems? Explain.
8. a) Explain the transformation of logical specifications into physical specifications?
(OR)
b) As an information manager, how do you organize a system plan?
9. a) Explain about expert systems? What are the characteristics of an expert system? How does an expert system work?
(OR)
b) What is a Decision Support System (DSS)? How does it differ from an MIS.
10. a) What are Controls? Distinguish between General Controls and Application Controls.
(OR)
b) What are common threats to computer systems? Explain.

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FACULTY OF SCIENCE
MCA II – SEMESTER REGULAR EXAMINATIONS, SEP 2017
MANAGEMENT INFORMATION SYSTEMS

PAPER – 03

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Define system entropy.
2. What is just-in-time system?
3. What are limitations of critical success factors?
4. What are components of DSS?
5. Explain about managing enterprise systems.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain the process of reengineering work.
b) How information technology supports business activities?
(OR)
c) Describe making the transition to the learning organization.
d) Do information systems provide a competitive edge? Explain.
 7. a) Explain about tactical human resource information systems.
b) Describe computer aided design and manufacturing systems.
(OR)
c) Discuss about budgeting systems.
d) Explain about performance management systems.
 8. a) Discuss about ends/means analysis in detail.
(OR)
b) Explain in detail business systems planning.
 9. a) Discuss about DSS in detail.
(OR)
b) Describe knowledge management in the organization.
 10. a) Explain in detail about controls and threats.
(OR)
b) Discuss about management of information systems.
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FACULTY OF SCIENCE
MCA II – SEMESTER REGULAR EXAMINATIONS, AUGUST 2015
DATA STRUCTURES
PAPER – 04

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Explain about Circular Linked List.
2. Explain push and pop operations.
3. Explain about hashing.
4. Write the algorithm for pre-order tree traversal.
5. Explain weighted graph with an example.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain different operations performed on Linear List.
(OR)
b) Write a program to create and display a linked list.
7. a) Explain about special matrices.
(OR)
b) Define Stack. Explain different applications of Stacks.
8. a) Explain various operations on AVL trees.
(OR)
b) Write a routine to insert and delete a node into Binary Search Tree.
9. a) Explain Binary Search with an example.
(OR)
b) Differentiate between Linear and Binary search. Write an algorithm for linear search.
10. a) Explain about Minimal Spanning tree Algorithm.
(OR)
b) Explain BFS algorithm with an example.

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M.C.A II – SEMESTER REGULAR/BACKLOG EXAMINATIONS, MAY 2016
DATA STRUCTURES
PAPER – IV

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Write advantages of Circular Linked list over Linked List with diagrams.
2. Write about Special matrices
3. Write definitions and properties of Trees
4. Explain Binary Search with code
5. Explain different graph representations

Section – B

Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a). Explain ADT of singular Linked List
(OR)
b). Explain ADT of Doubly Linked List.
7. a) Write and explain ADT of array based stacks.
(OR)
b) Write and explain ADT of linked queue.
8. a) What is Binary tree? Write non-rearsive routines for Binary tree teasels.
(OR)
b) What is AVL tree? How to delete an element from AUL tree in various situations.
9. a) Discuss in detail about Hashing.
(OR)
b) Explain the code of any 2 sorting methods.
10. a) Explain different graph traversal methods.
(OR)
b) Explain different algorithms to find minimal tree.

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M.C.A II – SEMESTER BACKLOG EXAMINATIONS, MAY 2017
DATA STRUCTURES
PAPER – IV

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Describe the circular linked lists.
2. Write brief notes on operations of queues.
3. Differentiate between AVL trees and B-trees.
4. Write notes on open addressing.
5. Distinguish between linked adjacency lists and array adjacency lists.

Section – B

Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a) Write about the following.
 - i) Properties of linked lists.
 - ii) Operations of linear lists.(OR)
 - b) Explain the array based representation of linear list.
7. a) Develop the column –major mapping function for a K- dimensional array.
(OR)
 - b) Write a program to implement a Dequeue .
8. a). Write a note on operations on AVL trees
(OR)
 - b) Explain binary tree traversal techniques with suitable examples.
9. a) Write a C++ class to implement Linear Search. Represent the list of items as a template Class. Demonstrate it by searching for items of integers and strings.
(OR)
 - b) Write about the following.
 - i) Chaining
 - ii) Hashing analysis.
10. a) Write note on applications of graphs.
(OR)
 - b) Differentiate between DFS and BFS with suitable examples.

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MCA II – SEMESTER REGULAR EXAMINATIONS, SEP- 2017
DATA STRUCTURES
PAPER – 04

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. What about the singly linked lists and chains.
2. Develop the row-major mapping function for a five-dimensional array.
3. Describe the Indexed Sequential Access Method (ISAM).
4. Write notes on Quadratic Probing.
5. Explain the Representation of Weighted Graphs.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Write a class to represent a polynomial as a linked list. Write a C++ program for multiplication of two polynomials.
(OR)
b) Write a program to implement reverse of a linked list.
7. a) Explain operations on stack using linked list representation.
(OR)
b) Write a template class to implement the Queue (linked).
8. a) Write notes on binary search tree operations and its implementation.
(OR)
b) Write a class to implement in order traversal of binary tree (iterative).
9. a) Write a class to implement binary and linear searches on a list of items represent as as on array.
(OR)
b) Write notes on complexity analysis of sorting algorithms.
10. a) Explain the methods to construct a minimal spanning tree with suitable example.
(OR)
b) Write a class to implement Breath first search of a graph.

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FACULTY OF SCIENCE
MCA II – SEMESTER REGULAR EXAMINATIONS, AUGUST 2015
PRINCIPLES OF OBJECT ORIENTED PROGRAMMING
PAPER – 02

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Differentiate abstract classes and interfaces.
2. Explain the need of thread synchronization.
3. Write about String Tokenizer.
4. What is the need of Adapter classes?
5. What is an Applet?

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain an arrays and its declaration with a suitable program.
(OR)
b) What is a class? Explain methods and constructors of a class with a suitable program.
7. a) Explain the life cycle of a thread and its priorities.
(OR)
b) Discuss Console input and output.
8. a) Give a note on the Legacy classes and interfaces.
(OR)
b) List and explain collection classes.
9. a) Briefly explain the Byte Streams.
(OR)
b) Write a java program to read data from “f1” file and writing the same data to “f2” file.
10. a) Explain the Delegation Event Model.
(OR)
b) i) List and explain events classes.
ii) List and explain events listener interfaces.

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M.C.A II – SEMESTER REGULAR/BACKLOG EXAMINATIONS, MAY 2016
PRINCIPLES OF OBJECT ORIENTED PROGRAMMING

PAPER – II

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Write benefits of object oriented development
2. Write about Print Writer Class
3. Write about Timer Class
4. Explain about Serialization
5. Explain about Applet Class

Section – B

Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a) What is Inheritance? How to achieve in Java?
(OR)
~~b) What is package? How to create and use packages in Java?~~
7. a) What is an Exception? How to Handle in Java?
(OR)
~~b) Explain different String Handling methods.~~
8. a) Explain about string Tokenizer Class
(OR)
~~b) Explain about collection classes.~~
9. a) Explain file input stream.
(OR)
~~b) Explain Byte Classes.~~
10. ~~a) What is an event? Explain event listener Interfaces.~~
(OR)
b) How to Handle Mouse Events? Explain.

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M.C.A II – SEMESTER BACKLOG EXAMINATIONS, MAY 2017
PRINCIPLES OF OBJECT ORIENTED PROGRAMMING

PAPER – II

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Discuss Inheritance
2. Write about prince writer class
3. Define thread synchronization
4. Define interface
5. Write about calendar utility class

Section – B

Answer the following questions in not more than **FOUR** pages each: (5x10=50)

6. a) List and explain benefits of object oriented development.
(OR)
b) List and explain following.
i) Selection statement ii) Iteration statements
7. a) Write about exception handling and exception types.
(OR)
b) Discuss few strings handling concepts.
8. a) What is the need of wrapper class? Explain the types of wrapper class in java.
(OR)
b) List and Explain the collection interfaces.
9. a) Write about File class and its methods.
(OR)
b) Briefly explain the character streams
c) Write about serialization in files
10. a) What is an applet? Explain its architecture .
(OR)
b) Briefly write about AWT components

FACULTY OF SCIENCE
MCA II – SEMESTER REGULAR EXAMINATIONS, SEP 2017
PRINCIPLES OF OBJECT ORIENTED PROGRAMMING
PAPER – 02

Time: 3 Hours]

Note: Answer all questions from Section – A and Section – B [Max. Marks: 70]

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. What is an array? What are various types of arrays?
2. What are special string operations? Explain.
3. Discuss about the List interface.
4. Explain about filtered byte streams.
5. Discuss about improving the Banner applet.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) What are the concepts of OOP? Explain with examples in Java.
(OR)
b) Discuss about various data types of Java with examples.
7. a) What are string comparison operations? Explain with examples.
b) Explain about reading and writing files.
(OR)
c) Describe the concept of synchronization.
d) Discuss about reading console input.
8. a) Explain about legacy classes and interfaces.
(OR)
b) Discuss about calendar utility class.
c) Explain about the Map interfaces.
9. a) Explain the following:
i) File Output Stream ii) Print Stream
(OR)
b) Explain the following:
i) Output Stream ii) Object Output Stream
10. a) Explain about event listener interfaces.
b) Describe effective use of nested panels.
(OR)
c) Discuss about an applet skeleton.
d) Explain in detail about layout managers.

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FACULTY OF SCIENCE
MCA II – SEMESTER REGULAR EXAMINATIONS, AUGUST 2015
COMPUTER ORGANIZATION
PAPER – 05

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. Explain Registers and shift registers.
2. Write about interrupts.
3. Define Micro Instruction.
4. Explain major components of CPU.
5. Define priority Interrupts.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Simplify the following expression using Boolean algebra
 i) $AB + A(CD + CD^1)$ ii) $(BC^1 + A^1D)(AB^1 + CD^1)$
 (OR)
 b) Write about the 4-bit synchronous Binary Counter.
7. a) What is meant by Instruction Codes? Explain the address modes.
 (OR)
 b) Write about the Register Transfer language.
8. a) Briefly explain the working process of First pass and Second pass in Assembly language.
 (OR)
 b) Explain the function of the Control Unit in digital computer with neat diagram.
9. a) Explain the following
 i) Types of interrupts ii) Reduced Instructions Set Computer (RISC)
 (OR)
 b) Explain in details about the Array Processors.
10. a) What is the difference between Isolated I/O and Memory-mapped I/O?
 (OR)
 b) Briefly explain the Main memory.

FACULTY OF SCIENCE
M.C.A. II – SEMESTER REGULAR/BACKLOG EXAMINATIONS, MAY 2016
COMPUTER ORGANIZATION
PAPER – V

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each:

(5x4=20)

1. Explain about complements
2. Explain Instruction Cycle
3. Write about Assembly language
4. Discuss about Instruction formats
5. Discuss about Asynchronous data transfer

Section – B

Answer the following questions in not more than **FOUR** pages each:

(5x10=50)

6. a) What is combination circuit? Design and explain 3-to-8 line Decoder.
(OR)
b) Explain Bidirectional shift Register with parallel load.
7. a) What is Micro operation? List and Explain Logic Micro Operation.
(OR)
b) Draw and explain control unit of basic computer.
8. a) Draw and explain flowchart for multiplication program.
(OR)
b) Explain Address sequencing of control memory.
9. a) List and explain different Addressing modes.
(OR)
b) What is Pipeline? Explain Instruction Pipeline.
10. a) Discuss about Memory Organization.
(OR)
b) Explain about Programmed I/O.

FACULTY OF SCIENCE
MCA II – SEMESTER REGULAR EXAMINATIONS, SEP 2017
COMPUTER ORGANISATION

PAPER – 05

Time: 3 Hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

(5x4=20)

Answer the following questions in not more than **ONE** page each:

1. What is a computer? Explain digital computers.
2. Explain about register transfer language.
3. Discuss about the assembler.
4. Discuss about stack organization.
5. Explain about priority interrupt.

Section – B

(5x10=50)

Answer the following questions in not more than **FOUR** pages each:

6. a) Explain about combinational circuits and sequential circuits.
(OR)
b) Describe fixed and floating point representation with examples.
7. a) Explain the following:
i) Logic micro operations ii) Memory reference instructions
(OR)
b) Explain the following:
i) Arithmetic logic shift unit ii) Interrupts
8. a) Discuss about programming arithmetic and logic operations.
(OR)
b) Explain in detail about design of control unit.
9. a) What are addressing modes? Explain in detail.
(OR)
b) Discuss about division algorithms.
10. a) Explain in detail about DMA.
(OR)
b) Define cache memory. Explain its levels in detail.

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X →
X ← A + B

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COMPUTER ORGANISATION

PAPER – V

Time: 3 hours]

[Max. Marks: 70

Note: Answer all the following question from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each:

(5x4=20)

1. Explain the multiplexer with example.
2. What is Register Transfer Language?
3. Define subroutine.
4. Define Pipeline.
5. Define Handshaking.

Section – B

Answer the following questions in not more than **FOUR** pages each:

(5x10=50)

6. a) Simplify the following Boolean functions using three variable maps.

i) $F(X,Y,Z)=\Sigma (0, 1, 5, 7)$

ii) $F(X,Y,Z)=\Sigma (1, 2, 3, 6, 7)$

iii) $F(X,Y,Z)=\Sigma (0, 1, 5, 7)$

(OR)

- b) Explain following

i) Fixed point representation.

ii) Decimal fixed point representation

iii) Floating fixed point representation.

7. a) What is Logic Micro-operation? List the logic Micro-operations that can be performed on two binary variables.

(OR)

- b) Explain Instruction Cycle of a computer with suitable flowchart.

8. a) Explain the rules of assembly language and instruction field in assembly language.

(OR)

- b) Explain Address Sequencing.

9. a) Briefly explain the Register stack and Memory Stack Operations.

(OR)

- b) Explain the process of Pipelining.

10. a) Explain any three types of mapping procedures of cache memory.

(OR)

- b) Briefly explain Serial Communication.