ANDHRA UNIVERSSITY

SCHOOL OF DISTANCE EDUCATION

ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

DISCRETE MATHEMATICAL STRUCTURES

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. Differentiate between Eulerian graph and Hamiltonian graph with example.
2. Prove that tautology.
   [(p→r) ^(q→r)]→[(pvq)→r]
3. Let R be a relation R defined on the set of real numbers as (a,b)R(c,d) iff$a^2 + b^2 = c^2 + d^2$.show that R is an equivalence relation.
4. State and prove De Morgan's Law for logic.
5. Draw the logic circuit with inputs x,y,t and output y when corresponds to each Boolean expression.
   (a) y=x'yz+x'yz'+xyz'
   (b) y=xy'z+xz'+y'z

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ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

DISCRETE MATHEMATICAL STRUCTURES

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. What is the number of solutions of the equation x+y+z+w=20, ifx,y,z and w are non-negative integers.
2. Find the number of ways that a students can be seated in the room so that there is at least one student in each of the five rows.
3. What are plannargraphs?Explain.
4. . Minimize the following expressions
   (a) $AB\vec{C}D + ABC\vec{D} + B\vec{C}D + \vec{A}BC\vec{D}$
   (B) $B\vec{C}D + A\vec{C}\vec{D}$ +AB$\vec{C}D$+A$\vec{B}\vec{C}$D
   (C) (A+B+$\vec{C}$)($\vec{A} + B + \vec{C}$)
5. Write short notes on the following
   (a) Finite state machine
   (b) Turing Machine
   (c) Minimum spanning trees.

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MCA (First Year)

COMPUTER ORANIZATION

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. Draw and explain about the internal configuration of 2 to 4 decoder.
2. Explain about various addressing modes in detail.
3. Explain about the I/O subsystem organization and interfacing of relatively simple computer.
4. Explain about the relatively simple ALU.
5. Explain about cache memory.

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ASSIGNMENT QUESTION PAPER 2020-2021

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COMPUTER ORANIZATION

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. Explain about 8085 data movement instructions.
2. Explain about the internal linear organization of 8 x 2 ROM chip.
3. Explain about arithmetic and logical micro-operations.
4. Explain about the internal architecture of 8085 microprocessor.
5. Explain about Booths multiplication.

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MCA (First Year)

PROBLEM SOLVING AND PROGRAMMING USING 'C'

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. Write and explain the basic concept of 'C' program.
2. Write the rules for defining declaring and initializing variables. Give suitable example.
3. Explain any Seven string manipulation library functions with examples.
4. What is array? Explain the declaration and initialization of one and two dimensional arrays with example.
5. What is structure? Explain the syntax of structure declaration with example.

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ASSIGNMENT QUESTION PAPER 2020-2021

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PROBLEM SOLVING AND PROGRAMMING USING 'C'

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. Write the algorithm, flowchart and 'C' program for Binary Searching.
2. Write a program in 'C' to print number from 4 to 9 and their squares.
3. Explain void and parameter less functions in 'C' with example.
4. What is a file? Explain how the file open and file close functions handled in 'c'.
5. Write a 'C' program to swap two numbers why call by pointers method.

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ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

PROBABILITY STATISTICS AND QUEUING THEORY

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. State and prove Bayes' theorem.
2. A random variable has the $c.d.f: F(x)=\begin{cases}0 & :x<0\\ 1-e^{-x/000} & x\geq 0\end{cases}$ find the

   (i) $P(100\leq X\leq 200)$and

   (ii) $P(X\leq 300)$
3. The mean of certain normal population is equal to the standard error of the mean of the samples of 64 from that distribution. Find the probability that the mean of the sample size 36 will be negative.
4. Explain the desire properties of good estimation.
5. Calculate the coeffieient of correlation for the following data:

   X: 23 27 28 28 29 30 31 33 35 36

   Y: 18 20 22 27 21 29 27 29 28 29

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ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

PROBABILITY STATISTICS AND QUEUING THEORY

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. If a random variable X follows a normal distribution such that $P(9.6 \le X \le 13.8) = 0.70008$ and $P(X \ge 9.6) = 0.8159$. Find the mean and variance of the distribution.
2. Derive the formula to End the mean andvariance of Binomial distribution.
3. Let p denotes the probability of getting ahead when a given coin is tossed once. Suppose that the hypothesis H_0 :p = 0.5 is rejected in favor of H_1 :p = 0.6 if 10 trails result in 7 or more heads. Calculate the probabilities of Type — 1 and Type —2errors
4. Find, the value of CM-square for the following data:

   Observed frequency 10 4 15 18 20 15 5 2 3

   Expected frequency 10 7 10 15 25 10 5 5 5
5. If for a period of 2 h in a day (8— 10 am) trains, arrive at the yard every 20 mm, but the service time continues to remain 36 mm and then calculate average queue length on the assumption that the time capacity of the yard is limited to 4 trains only.

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ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

MANAGEMENT ACCOUNTANCY

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. Answer any THREE of the following. -
   (a) Ledger
   (b) Sales Book
   (c) Budgetary control
   (d) Current ratio
   (e) Applications of Marginal costing.

2. State the advantages and limitations of Double entry system of Accounting.

3. Enter the following transactions in the cash book of Ramana with discount and cash columns.
   July
   1st Started Business with Rs.10,000
   2nd Paid into bank Rs.5,000
   6th Received RaG,000 from Kiran allowed discount Rs.20
   9th Paid Santha Rs.2,000 from was allowed discount Rs.10
   12th Received Rs.1, 180 from Rishipal in settlement of Msdebt Rs.1,200
   14th Paid Subhod Rs.890 in full settlement ofaccount Rs:900–
   21st Paid Salaries Rs.300; Wages Rs.500; Rent Rs,200
   24th Paid Chateñee Rs.880 and was allowed discount Rs.10
   26th Purchased furniture from Ramvilascompany for cash Rs.800
   29th Received Rs.3,480 from Mukherjee and allowed discount Rs.30.

4. From the following balances as on 31st March,2014, prepare Trading and Profit and Loss accountand Balance Sheet.

Particulars	Rs.	Particulars	Rs.
Capital account	10.000	Returns outward	500
Plant and Machinery	4,000	Rent	400
Sundry debtors	2,400	Sales	16,400
Sundry creditors	1,200	Manufacturing expenses	800
Drawings	1,200	Trade expenses	700
Purchases	10,500	Bad debts	200
Wages	5,000	Carriage	150
Bank	1,000	Bills payable	700
Repahs	50	Returns inward	400

Closing stock (31St March, 2014) was valued atRs.1,450.

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ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

MANAGEMENT ACCOUNTANCY

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. What is Ratio analysis? Explain the significance, advantages and limitations of Ratio Analysis.

2. State the features and components of working capital. Explain working capital cycle and the factors determining the requirements of working capital.

3. How are Budgets classified? Explain elaboratelythe principal Functional Budgets.

4. Write down the advantages of Computerised Accounting system over Manual system of Accounting and explain the Master files and Transaction files used in Computerised Accounting system.

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ASSIGNMENT QUESTION PAPER 2020-2021

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SYSTEMS PROGRAMMING

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. What is Macro? Why do we use Macro? Explain the macro expansion with assembly coder. Also discuss the issues in the design of macro processor.
2. Describe the data structures used during passes of Assembler and their use.
3. What are the applications of FSM? Explain.
4. What is Text editor? What are its features? Explain any two text editors in detail.
5. What is relocating loader? Explain the transfer vector concept.

ASSIGNMENT QUESTION PAPER 2020-2021

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SYSTEMS PROGRAMMING

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. Discuss in detail the single and double posses of assemblers with their algorithms.
2. What is the role of batch register and Index register? Explain.
3. Discuss the uses of grammer in compiler design.
4. Discuss about Debug motiros.
5. Write a detailed note as lexical phase of compiler.

ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

DATA STRUCTURES

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. State and discuss about different string handling functions.
2. Write about various circular queue operations using single linked list notation.
3. Discuss and implement various operations of doubled linked list.
4. Explain about DFS and BFS with suitable example and mention its applications.
5. Compare linear search and binary searching techniques.

ASSIGNMENT QUESTION PAPER 2020-2021

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DATA STRUCTURES

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. What is meant by recursion? With suitable example how stack is used to implement recursion.
2. Write procedures for adding a node and deleting a node from a binary tree.
3. Apply selection algorithm to sort the following data. Justify the steps. 42,29, 74, 11, 65, 58.
4. Define non-linear data structure.
5. What is the advantage of circular queue over linear queue?

ASSIGNMENT QUESTION PAPER 2020-2021

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PRINCIPLE OF PROGRAMMING LANGUAGES

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. Discuss about static and dynamic scope of variables with an examples.
2. Explain type compatibility with example.
3. Discuss terms and goal statements in prolog.
4. Write a detailed note on functional in ML.
5. Give overview about concurrent programming.

ASSIGNMENT QUESTION PAPER 2020-2021

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PRINCIPLE OF PROGRAMMING LANGUAGES

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. Explain different categories of languages.
2. What are the advantage and disadvantages of dynamic type binding? Explain.
3. Explain about exception handling in Ada.
4. Differentiate between imperative and function language.
5. Describe the scoping rules in LISP.

ASSIGNMENT QUESTION PAPER 2020-2021

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OBJECT ORIENTED PROGRAMMING

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. Explain different forms of inheritance with suitable example for each.
2. Write a program to overload unary minus operator in C++ language.
3. Explain various types of tools used in C++ with suitable example.
4. Explain all input and output function of files in C++.
5. What is template? Explain the differences between class and function templates.

ASSIGNMENT QUESTION PAPER 2020-2021

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OBJECT ORIENTED PROGRAMMING

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. What do you mean by operator overloading?
2. How is polymorphism is achieved at compile time and run time?
3. What is friend function? Explain with examples.
4. What is constructor? How do we invoke a constructor function?
5. Explain the importance of destructors.

ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

INFORMATION SYSTEM AND ORGANIZATIONAL BEHAVIOUR

ASSIGNMENT-1

Marks 20

Answer All questions. All question carry equal marks.

1. What are the models of organization behaviour? Explain in detail.
2. Differentiate between management and leadership. Also explain the importance of leadership.
3. What is the concept of motivation? Explain Maslow's theory of needs.
4. What are the information needs and objectives of management information system? Discuss in detail.
5. What is personality? Besides the big five, what other personality traits relevant to organizational behaviour? Explain.

ASSIGNMENT QUESTION PAPER 2020-2021

MCA (First Year)

INFORMATION SYSTEM AND ORGANIZATIONAL BEHAVIOUR

ASSIGNMENT-2

Marks 20

Answer All questions. All question carry equal marks.

1. Describe the process of organizational change.
2. Discuss about transactional analysis. Explain different strategies to overcome the resistance of employees to change.
3. Explain the types of culture in organizational behaviour? Explain.
4. Define the term leadership and list different theories of leadership.
5. Explain the major factors of organizational failure to change.