

4. Write a detailed note on the factors to be taken into consideration while planning a presentation.

Or

Discuss in detail the importance of presentation in meetings and public gatherings. **15**

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Roll No.

AA-683

M.C.A. EXAMINATION, Dec. 2018

(First Semester)

(B. Scheme) (Re-appear Only)

HUM507B

COMMUNICATION SKILLS

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : All the questions are compulsory.

1. (a) What do you know about the format of a memo ? Discuss the advantages of the memo form.

Or

Draft a memo declining the grant of deputation to an employee still on probation. **10**

- (b) Discuss the form and structure of a business letter.

Or

Suppose you want to take a car loan from State Bank of India. Write a letter to the Chief Manager, SBI branch of your locality requesting him/her to send you all the information related to SBI car loans. **10**

2. (a) What is Resume ? What details are usually included in it ?

Or

Draft a resume for the post of the Secretary of a large public limited company. **10**

- (b) Write an application in response to the following advertisement :

“Wanted an assistant for the cooperative store of an educational institute. Apply with testimonials, stating age, qualifications and salary expected to the Principal, S.D. School Ambala. **10**

Or

What do you know about statement of purpose ?

3. (a) Discuss the key features of a technical report. **10**

Or

Write a report about the need to computerise the activities of your department.

- (b) Explain the importance of Technical Report. **10**

Or

Draft a report on the need to introduce some incentive schemes to boost the sales of the company.

No. of Printed Pages : 03

Roll No.

AA-681

M.C.A. EXAMINATION, Dec. 2018

(First Semester)

(B. Scheme) (Re-appear Only)

MCA401

PROBLEM SOLVING AND PROGRAMMING
IN C

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

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P.T.O.

Unit I

1. (a) What is flowchart ? Explain the various symbols used in flowcharts. 7
- (b) What is Computer ? Draw the block diagram of the computer and explain the various components of it. 8
2. (a) What is Algorithm ? Write the algorithm for calculating the average of n number. 8
- (b) Explain the different types of programming languages. 7

Unit II

3. What is Operating System ? Explain the different services and function of Operating System. Also list the features of Unix and Linux operating system. 15
4. Explain the following :
 - (a) LAN and WAN 5
 - (b) FTP 5
 - (c) Data Communications. 5

Unit III

5. Explain the different types of operators available in C and also discuss their used. 15
6. Explain the following :
 - (a) Storage classes 5
 - (b) Type conversion 5
 - (c) Types of error. 5

Unit IV

7. What are Pointers ? Why are the importance ? Explain the features of pointer. Also discuss the relation between an array and a pointer. 15
8. What is a Structure ? How are structure elements stored in memory ? Explain the use of dot operator. 15

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Roll No.

AA-684

M.C.A. EXAMINATION, Dec. 2018

(First Semester)

(B Scheme) (Re-appear Only)

MCA-405

DISCRETE MATHEMATICS

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(1-03) M-AA-684

P.T.O.

Unit I

1. (a) What do you mean by Equivalence Relation and Partial Ordering Relation ? Explain. **8**
(b) Prove that : **7**
 $(A \times B) \cup (P \times Q) = (A \cup P) \times (B \cup Q)$.
2. (a) What do you mean by Functions ? Explain different types of Functions. **7**
(b) What do you mean by Multisets ? Also explain different operations on Multisets. **8**

Unit II

3. (a) How will you differentiate between a general tree and binary tree ? **5**
(b) Explain the Dijkstra's Algorithm to find shortest path in a weighted graph. **10**
4. Write notes on the following : **3×5=15**
 - (a) Eulerian Path and Circuit
 - (b) Graph Coloring
 - (c) Spanning Tree.

Unit III

5. (a) State and prove Lagrange Theorem. **10**
(b) With the help of suitable example explain what are rings. **5**
6. (a) Define tautologies, contingency and contradiction. From the following formulae find out tautology, contingency and contradiction : **5**
 - (i) $P \rightarrow (P \rightarrow Q)$
 - (ii) $P \vee \wedge P$.
- (b) Write note on Boolean Algebra. **5**

Unit IV

7. (a) List solve the recurrence relation $a_r = a_{r-2} + a_{r-1}, r \geq 2$ with the initial conditions $a_0 = 1$ and $a_1 = 1$. **10**
(b) State and Euler's formula for planar graph. **5**
8. With the help of suitable examples define Permutations, Combination, AP, GP and AG Series. **15**

- (b) What is tri-stage logic ? Illustrate. 3
- (c) Mention characteristics of CMOS logic circuit. Also discuss transmission gate in brief. 6
6. (a) Give the major classification of semiconductor memories and explain those in brief. 8
- (b) Write a detailed note on SRAM cell. 7

Unit IV

7. (a) Draw the block schematic of sample and Hold circuit and explain its operation. 5
- (b) Explain the operation of binary weighted resistor DAC. Also explain its accuracy, resolution and conversion speed. 10
8. (a) Give the block diagram of PLA and explain its working. How will you specify the size of PLA ? Illustrate. 8
- (b) Write a brief note on FPGA. 7

AA-685

M.C.A. EXAMINATION, Dec. 2018

(First Semester)

(B Scheme) (Re-appear Only)

MCA-407

DIGITAL ELECTRONICS

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) What do you understand by logic gates ?
Give the symbol and truth table of each
of the following : **3**

- (i) AND
(ii) OR
(iii) EX-OR.

- (b) Convert decimal number 0.6875 into
binary equivalent number. **3**

- (c) What are error detection and correction
codes ? Explain in brief. **4**

- (d) Show that if :

$$xy = 0$$

then $x \oplus y = x + y$. **5**

2. (a) A combinational circuit produces the
binary sum of two 2-bit numbers; $x_1 x_0$
and $y_1 y_0$. The outputs are C, S_1 and S_0 .
Give the truth table of this combinational
circuit. **8**

- (b) Simplify the following Boolean
expression by K-map : **7**

$$F = x'yz + x'y'z + xyz' + x'y'z' \\ + xyz + xy'z'$$

Unit II

3. (a) Give the logical diagram of 4-to-1 line
multiplexer and explain its operating
principle. **8**

- (b) Implement a full adder circuit with a
decoder and OR gates. **7**

4. (a) Discuss the following : **8**

- (i) Ring Counter
(ii) Johnson Counter.

- (b) What are hazards in asynchronous
sequential circuits ? How will you
overcome those ? **7**

Unit III

5. (a) Discuss Switching Mode Operation of
 $p-n$ junction in brief. **6**