185–N

B. A./B. Com./B. Sc. (Part I)
EXAMINATION, 2017

(New Course)

(Vocational Course)

COMPUTER APPLICATION

Paper First

(Computer Fundamental and Internet)

Time : Three Hours] [*Maximum Marks* : { *B. A.* : 25 ; *B. Com./B. Sc.* : 50

Note : Attempt questions from all Sections as directed.

Inst. : The candidates are required to answer only in serial order. If there are many parts of a question, answer them in continuation.

Section—A

(Short Answer Type Questions)

Note : For B. A. attempt any *three* questions and each question carries 3 marks. For B. Com./B. Sc. attempt all questions and each question carries 3 marks.

1. (A) Draw the block diagram of computer system and explain its components.

(B) Why NAND and NOR gates are called Universal gate ? Explain.

(C) Simplify the following Boolean expressions :

(i) $F = z(y + z)(x + y + z)$

(ii) $F = \bar{X}\bar{Y} + \bar{X}Z + Y\bar{Z} + \bar{Y}Z\bar{W}$

(iii) $F = (X + Y)(\bar{X} + Z)(Y + Z)$

(D) Discuss various types of addressing modes which are usually provided in a micro-processor with suitable example ?

(E) What do you mean by flowchart ? Draw its symbols. Draw the type flowchart to find the sum of first 10 natural numbers.

(F) Convert the following :

(i) $(0.96)_{10} \rightarrow (?)_8$

(ii) $(100110.10111)_2 \rightarrow (?)_{16}$

(iii) $(6D.3A)_{16} \rightarrow (?)_2$

Section—B

(Long Answer Type Questions)

Note : Attempt any *two* questions. For B. A. each question carries 4 marks and for B. Com./B. Sc. each question carries 8 marks.

2. (i) Define Magnetic Disk and the following terms :

(a) Track

(b) Sector

(c) Seek Time

(d) Latency

(e) Transfer rate

(ii) Find the storage capacity of a disk which have 10, disk plates with 2655 tracks ? There are 125 sectors per track.

3. Simplify the following Boolean function :

$F(A, B, C, D) = \Sigma (0, 1, 2, 5, 8, 9, 10)$

(i) Sum of product

(ii) Product of sum

using k-Map method.

4. Convert the following numbers to their corresponding bases :

(i) $(101101.101101)_2 = (\ )_8$

(ii) $(101101.101101)_2 = (\ )_{16}$

(iii) $(94.00625)_{10} = (\ )_2$

(iv) $(11011.0101)_2 = (\ )_{10}$

(v) $(11011.0101)_2 = (\ )_8$

(vi) $(A6D51)_{16} = (\ )_2$

(vii) $(9AB5.25)_{16} = (\ )_2$

(viii) $(671.54)_8 = (\ )_2$

5. How is Algorithm different from Pseudocode ?

(i) Write the algorithm to check whether the input number is Armstrong or not.

(ii) Write the pseudocode to print the greatest among three input numbers.

(Long An...

Note Attempt any ... ch question carries 4 mark... So, each question carries ...

6. What are the characteristics of computer network ? Explain its type. Also name the various component used in computer network.

7. Reduce the following Boolean expression using k-Map :

(i) $\Sigma(1,2,4,7,12,13,14)$

(ii) $\Pi(2,3,5,8,9,10,13,14)$

Also circuit and truth table of the reduced expression.

8. Write down the short notes on the following :

(i) ISPs

(ii) Browser

(iii) Telnet

(iv) FTP

(v) HTTP

(vi) IP Addresses

(vii) Meta search engine

(viii) Domain name

9. Draw the architectural diagram for 16-bit microprocessor. Differentiate between 8-bit and 16-bit microprocessor on the basis of their functionality.