

Roll No.

185-N

**B. A./B. Com./B. Sc. (Part I)
EXAMINATION, 2018**

(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) Differentiate between high level, low level and machine language.

- (B) Explain each component of CPU with figure.

- (C) Explain the following :

- (i) Track and sector
- (ii) Rotational latency
- (iii) Seek time and Access time

- (D) Subtract the following using complementary method :

(i) $(1011100)_2 - (0111000)_2$

(ii) $(010010)_2 - (100011)_2$

(iii) $(10101)_2 - (01110)_2$

- (E) What is data processing ? Differentiate between data and information.

- (F) Convert the following :

(i) $(545)_6 = (?)_4$

(ii) $(11010011)_2 = (?)_{16}$

(iii) $(24)_9 = (?)_3$

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. (a) What do you mean by software ? Explain its types.
- (b) Explain the difference between high level language and object oriented programming language.

2. Find the complement of the following Boolean functions. Also draw the circuit using AND, OR and NOT gates :

(i) $F = \bar{x}.y.\bar{z} + \bar{x}.\bar{y}.z$

(ii) $F = x.(y\bar{z} + y.z)$

4. (a) Convert the following into BCD code :

(i) $(25)_{10}$ <http://www.csjmuonline.com>

(ii) $(128)_{10}$

(iii) $(64)_{10}$

(iv) $(1024)_{10}$

(b) Draw the flowchart to find the sum of even and odd no. from 1 to 100.

5. (a) Express the following Boolean functions :

(i) $F = x.y + \bar{x}.z$ in POS form

(ii) $F = A + \bar{B}.C$ in SOP form

(b) What do you mean by printer ? Explain its types.

Section—C

(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.

6. (a) Write in detail the concept of a search engine. Give the three elements of a search engine.

(b) What do you mean by web browser ? Give example. What are the main functions of a browser ?

7. What are the applications of Boolean Algebra ? Simplify the below expressions using K-map and implement using AND, OR and NOT gates :

(i) $\Sigma (1, 6, 10, 11, 12)$

(ii) $\Sigma (3, 4, 5, 8, 9, 10)$

8. Prepare the truth-table of the following Boolean expressions :

(i) $F = A.\bar{B}.C + \bar{A}.B.\bar{C}$

(ii) $F = (\bar{A} + \bar{B}).(A + C).(B + \bar{C})$

(iii) $F = A.\bar{B}.C + \bar{B}.\bar{C}$

(iv) $F = \bar{A} + B + \bar{C}$

9. (a) Why NAND and NOR gates called universal gates ? Explain.

(b) Construct logic circuit diagram for the following Boolean expressions using NOR gate :

(i) $F = (A + B) . (\overline{A.B})$

(ii) $F = (A + B) . (A + C) . (\bar{A} + \bar{B})$

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