

# **CENTRE FOR DISTANCE AND ONLINE EDUCATION**

**Aligarh Muslim University, Aligarh**

**Session 2020-2021**

**B.Sc. (Computer Science) I Semester**

**COMPULSORY ENGLISH**

**(EN-101)**

## **ASSIGNMENT**

**Total Marks: 10**

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Attempt any two questions.

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1. What are the requirements of a good précis?
2. Write a paragraph in about 100 words describing your house.
3. Write a note on the function of a summary.

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PROBLEM SOLVING TECHNIQUE USING COMPUTER PROGRAM

(CC-102)

## ASSIGNMENT

Total Marks: 20

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Attempt any two questions.

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1. Write a 'c' program to implement:

1

2     6

3     7     10

4     8     11     13

5     9     12     14     15

2. Read the following c's instructions carefully:

a. `int *ptr = &i, i = 2;`

b. `inti = 2, *ptr = i&;`

c. `int *ptr = &i = 2;`

d. `inti = 2, *ptr = &i;`

Which of the following syntactically wrong, justify your statement.

3. Write a 'c' program to concatenate two-text file from a specified location.
4. Write a 'c' program to split a string by using pointer.

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**FUNDAMENTAL STATISTICS**

**(ST-101)**

## **ASSIGNMENT**

**Total Marks: 20**

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Attempt any two questions.

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1. What is Statistical Data? Explain the difference between quantitative and qualitative data.
2. Explain the mean, median, and mode and quartiles deviation.
3. Discuss the concept of Correlation and Regression.

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**THEORY OF PROBABILITY**

(ST-102)

## ASSIGNMENT

**Total Marks: 20**

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Attempt any two questions.

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1. Three dice are tossed simultaneously; on getting odd number of head, a fair coin is tossed. Calculate the following:
  - a. Total sample space
  - b. Probability of getting eve number of head.
  - c. Probability of getting no head.
2. Two processes are executed simultaneously the probability of getting success in each process is 0.2 and 0.74 respectively. While the probability of getting failure in any process is 0.5. Find the probability of getting failure simultaneously.
3. A deck of playing card consist four duplicate cards of each suits, three cards are draw random. Find the probability of getting ace of each suits.
4. In 18 of 11 players 30% like cricket, 26% like either football or cricket. Find the probability of getting none of the both.

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CALCULUS

(MM-101)

## ASSIGNMENT

**Total Marks: 20**

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Attempt any two questions.

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1. Find the  $n^{th}$  order of derivative:

$$Y = \sin^{-1}(e^\theta)$$

2. Explain the theory of Leibnitz theorem. Find the expression  $\sin x$  using Maclaurin series.

3. Differentiate the following:

a.  $t = \log(e^\theta)$

b.  $x = a \sin(\theta)$

c.  $y = \frac{2}{x}$

4. find the differential form of parametric equation:

$$x^2 + y^2 + 2gx + 2fy + c = 0$$

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B.Sc. (Computer Science) I Semester

ELEMENTARY DIFFERENTIAL EQUATION

(MM-102)

## ASSIGNMENT

**Total Marks: 20**

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Attempt any two questions.

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1. Solve the given differential equation

$$\frac{2x}{y^3} dx + \frac{y^2 - 3x^2}{y^4} dy = 0.$$

2. Use Eulers method to solve for  $y[0.2]$  from  $y' = x + y + xy$ ,  $y(0) = 1$  with  $h = 0.02$  Also estimate how small  $h$  would need to obtain four-decimal accuracy.
3. Explain the Laplace transform.

If  $\mathcal{L}\{f(t)\}=F(s)$ , then

$$\mathcal{L}\left[\int_0^t f(u) du\right] = \frac{F(s)}{s}$$

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