

Total No. of Questions : 4]

SEAT No. :

PF216

[Total No. of Pages : 2

Apr-26/SE/Insem-265

S.E. (Artificial Intelligence & Data Science) (Insem)

STATISTICS

(2019 Pattern) (Semester-IV) (217528)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer Q.1 or Q.2 and Q.3 or Q.4.
- 2) Figures to the right indicate full marks.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Make suitable assumptions whenever necessary.
- 5) Use of electronics non programmable calculator is allowed.

- Q1)** a) What is population and sample? Give a difference between them? [5]
b) Define sampling? What are type of sampling and explain any one? [5]
c) What is statistics? Give importance and limitations of statistics? [5]

OR

- Q2)** a) Explain the scope of statistics in engineering and technology? [5]
b) Explain Stratified sampling with suitable example? [5]
c) Explain parameter and Statistics with suitable example? [5]

- Q3)** a) Calculate the Arithmetic mean for the following distribution [5]

Class Interval	0-8	8-16	16-24	24-32	32-40	40-48
Frequency	8	7	16	24	15	7

Also states merits and demerits of Arithmetic mean (2 each)?

- b) An incomplete frequency distribution is given as follows. [5]

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	12	30	-	65	-	25	19

Total frequency 230 and median value is 46 then determine the missing frequencies?

P.T.O.

- c) Draw a frequency polygon for the following data [5]

Monthly house rent	0-10	10-20	20-30	30-40	40-50	50-60
No. of families	4	6	20	10	7	3

And also state the advantages of graphical representation of data?

OR

- Q4) a) What is a histogram? Draw the histogram for the following data. [5]

Age group (in years)	10-19	20-29	30-39	40-49	50-59	60-69	70-79
Population	4	12	20	18	14	25	10

- b) Calculate the mode for the following distribution: [5]

Marks	0-4	4-8	8-12	12-14	14-18	18-20	20-24	24-28
Number of students	10	12	18	7	5	3	4	6

- c) From the following data calculate Harmonic mean [5]

Class interval	10-20	20-30	30-40	40-50	50-60
Frequency	30	75	70	135	220

also write merit and demerit of Harmonic mean

