JAIN COLLEGE

463/465, 18th Main Road, SS Royal, 80 Feet Road, Rajarajeshwari Nagar,
Bangalore - 560 098

Date: ***SUBJECT: STATISTICS***

I PUC

MOCK - EXAMINATION

Timings Allowed: 3Hrs. ***Total Marks: 100***

SECTION A

Answer any 10 of the following. Each carry 1 mark. 10x1=10

1. Mention a branch of applied statistics.
2. What is an attribute?
3. What is Strata?
4. What do you mean by discrete frequency distribution?
5. Mention the averages obtained by histogram.
6. Which average would be suitable in the case of average intelligence of students in class?
7. Write the formula to find P78 for a discrete data.
8. Name the distribution when $\beta_2 > 3$.
9. If $\sum d^2 = 0$, what is your conclusion?
10. Write regression equation of X on Y.
11. If P(A) is 0.4, find $P(A')$.
12. Define Random variable.

SECTION B

Answer any 10 of the following. Each carry 2 mark. 10x2=20

13. Define qualitative and quantitative data.
14. Mention any 2 points to be considered under planning and enquiry.
15. What is Chronological classification? Give example.
16. Define the term Range and class limits.
17. Write any 2 needs of graphs and diagrams.
18. Compute A. M and G.M for the following data. (16, 125, 27)
19. Find the Karl Pearson's co- efficient of skewness if, mean is 80, median is 75 and S.D is 6.5.
20. If $\Upsilon_{xy} = 0.8$, Cov(x,y) = 20, S.D of X = 16. Find S.D of Y.
21. A box has 5 red and 4 green balls. Two balls are drawn at random. What is the probability that they are of same colour?
22. If $E(X^2) = 252$, E(X)= 3, find V(X).
23. Define the term contingency table and class of first order.
24. In a frequency distribution if mean = 24.6, and Mode = 36, find Median.

SECTION C

Answer any 8 of the following. Each carry 5 mark. 8x5=40

25. Explain any 5 function of statistics.
26. What is a Primary data? Explain the methods of collection the same.
27. Draft a blank table showing the distribution of degree students in a college.
    Gender – Boys & Girls.
    Faculty – Science Arts and Commerce.
    Year – 20015 – 16, 2018-19.
28. Compute H.M from the following:

X	6	12	18	24	30
F	5	10	15	10	7

29. Draw histogram from the following data.

C I	0-10	10-30	30-40	40-45	40-60
Frequency	5	12	18	15	8

30. Following are the marks of 5 students in 1st and 2nd test are as follows. Compute Spearman's rank correlation.

1st test	56	45	76	89	89
2nd test	65	65	54	65	98

31. From the following data, regarding the amount of rainfall and production of rice, find the most likely production corresponding to a rainfall of 50 cm.

	Rainfall X	Production Y
Mean	30	40
Variance	25	64

32. Calculate Yule's coefficient of association for the following and conclude:
    N= 200, Literates 120, Employed literates 80, Employed 150.
33. Interpolate the value for Y for the year 2013.

Year	2012	2013	2014	2015	2016	2017
Y	2	-	12	20	27	35

34. State and prove the multiplication theorem for 2 dependent events.
35. Two dice are rolled once. Find the probability of getting
    a. Both odd numbers
    b. Sum is 10.
36. State and prove addition theorem of expectation for two random variables X & Y.

SECTION D

Answer any 2 of the following. Each carry 10 mark. **2x10=20**

37. Find which team is better by calculating co- efficient of variation for the following data:

No of goals scored	No of matches	
	Team I	Team II
0	8	6
1	12	10
2	6	12
3	3	8
4	1	4

38. Calculate co efficient of skewness based on quartiles and comment.

C I	0-10	10-20	20-30	30-40	40-50	50-60
F	2	5	8	10	12	3

39. Calculate Karl Pearsons co efficient of correlation and comment:

Age /IQ	100	110	120	130
0-12	7	4	2	1
12-24	3	4	0	1
24-36	2	1	1	-
36-48	-	-	1	-

40. a) A bag has 6 pink, 5 grey and 4 blue balls. 3 balls are selected at random, what is the probability that they are 1) same colour 2) 2 are grey and remaining is pink.
    b) If E(X) = 10, E(Y) = 15, E(XY) = 250, V(X) = 144, V(Y) = 81. Find Cov (XY) and $\Upsilon_{xy.}$

SECTION E

Answer any 2 of the following. Each carry 5 mark. 2x5=10

41. For the following data taking 10 as width of the exclusive class intervals. Construct a frequency distribution table.

55	33	78	45	20	38	34	75	46	41
39	76	66	35	45	34	28	50	56	42
79	54	68	55	54	41	65	76	50	55

42. Represent the following data by a percentage bar diagram.

Items of expenditure	Family A	Family B
Food	1500	1500
Clothing	1250	600
Education	250	500
Others	190	700

43. Find the missing frequency when AM is 32.

X	10	20	30	40	50	60
F	7	8	-	12	5	3

44. From the following data, find K and E(3x + 4y)

X/Y	1	3	9
2	0.1	0.1	0
4	K	0.3	0.1
0	0.1	0.2	0.1