



- Note: 1. Statistical tables and graph sheets will be supplied.
2. Scientific calculators are allowed.
3. All working steps should be clearly shown.

PART – A

I. Answer any ten questions:

1×10 =10

1. Define Population.
2. State A.L Bowley's definition of statistics.
3. What is classification of data?
4. Write the formula of mid-point of a class.
5. Define ogive.
6. What is class frequency?
7. If $\sum x = 100$ and $\bar{x} = 20$, find n.
8. Find the geometric mean of 2 and 8.
9. Give an example for negative correlation.
10. What is interpolation?
11. If $P(A) = \frac{2}{3}$ then find $P(A^c)$.
12. Define probability mass function.

PART – B

II. Answer any 10 questions, each question carries two marks:

2×10 =20

13. What is continuous variable? Give an example.
14. Mention two stages of statistical enquiry.
15. What is open-end class interval? Give an example.
16. Define stub and caption of a table.
17. Mention two objectives of diagrams and graphs.
18. What is Histograms?
19. Find the H.M of 1, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$.
20. If $Q_1 = 10$ and $Q_3 = 20$. Find quartile deviation.
21. What are regression lines? Where do they interest?
22. In case of two attributes, if $N = 250$, $(AB) = 30$, $(A) = 100$ and $(B) = 50$, then find the remaining frequencies.
23. IF $P(A \cap B) = \frac{1}{3}$ and $P(B) = \frac{2}{3}$ find $P(A/B)$.
24. IF $E(X) = 2$ and $E(X^2) = 20$, find SD (X).

PART – C

III. Answer any 8 questions: each carries Five marks :

5×8

= 40

25. Explain the functions of statistics.
 26. What are the guidelines for construction of a questionnaire?
 27. Draft a neat blank table the present the college students awarding to faculty – arts, commerce and science, classes – I PUC and II PUC, sex boys and girls and for the year 2011-2012.
 28. Represent the following data by simple bar diagram .

Year	2006	2007	2008	2009	2010
Student Strength	500	800	600	1000	900

29. Find the G.M for the following data.

Weight (Kg)	40-45	45-50	50-55	55-60	60-65
No of Students	3	10	15	10	2

30. Explain the types of correlation with example.
 31. For the following data calculate spearman's rank correlation coefficient and comment on the result.

X	5	10	15	20	25	30
Y	60	50	40	30	20	10

32. In a college out of 200 students, 150 are boys. In an examination 160 students are passed and 10 girls have failed. Is there any association between gender and success in the examination?
 33. Using binomial expansion method, estimate the index number for the year 2010 for the following data.

Year	2006	2007	2008	2009	2010
Index Number	100	107	120	157	?

34. State and prove addition theorem of probability for two non-mutually exclusive events?
 35. A bag contains 4 while and 6 black balls. Two balls are drawn randomly from the bag. Find the probability that they are of i) the same colour ii) different colour.
 36. State and prove multiplication theorem of expectation.

PART – D

IV. Answer any of the following 2 questions, each questions carries Ten marks: 2×10 =20

37. The following data represents the run scored by the two batsmen 'A' and 'B' in 10 innings

A	100	31	0	37	91	50	9	5	75	10
B	25	60	18	63	9	20	75	40	10	180

- Determine i) Who is better run scorer?
 ii) Who is more consistent scorer?

38. For the following data compute Bowley's coefficient of skewness and comment on the result.

IQ	60-69	70-79	80-89	90-99	100-109
No of children	3	7	10	22	18

39. For the following bivariate data, find Karl Pearson's correlation of coefficient (r).

x \ y	0	1	2	3
20-25	30	-	-	-
25-30	8	22	16	4
30-35	4	-	5	3

35-40	-	2	5	1
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40. (a) The first box contains 3 white and 5 black marbles. The second box contains 6 white and 4 black marbles. A box is selected at random and then one marble is drawn from it. Find the probability that it is white.

(b) A person enters into a competition of hitting a target. If he hits the target, he gets Rs 10.

Otherwise, he uses Rs 5. If the probability of hitting the target is $\frac{3}{10}$. Find his expectation.

PART – E

V. Answer any 2 of the following questions, each question carries five marks: $2 \times 5 = 10$

41. The following data shows age (years) of 30 persons construct a frequency table by using suitable class intervals.

24, 25, 09, 13, 30, 36, 29, 01, 19, 27, 11, 20, 28, 10, 59, 30, 43, 39, 21, 40, 33, 35, 29, 21, 40, 43, 31, 05, 13, 18.

42. Draw histogram hence find the value of mode

C I	10-20	20-30	30-40	40-50	50-60
f	3	7	10	8	2

43. The A.M of the following distribution is 11. Find the missing frequency.

Cl	0-4	4-8	8-12	12-16	16-20	20-24
f	3	10	?	14	7	1

44. A random variable X has the following probability distribution.

X	-2	-1	0	1	2	3
P(x)	0.1	0.1	0.2	2K	0.3	0.1

Find i) K ii) E (X) iii) V (X)
