

Statistics-3
Model Exam Question paper - 3
11th Standard

Business Maths

Reg.No. :

I. Answer all the questions

Time : 01:05:00 Hrs

Total Marks : 50

Part-A

4 x 1 = 4

- 1) Square of S.D. is called
(a) mean deviation (b) quartile deviation (c) variance (d) range
- 2) If A and B are independent event, then $P(A \cap B)$ is
(a) $P(A)P(B)$ (b) $P(A) + P(B)$ (c) $P(A/B)$ (d) $P(B) - P(A)$
- 3) Which of the following is correct?
(a) $H.M. \leq G.M. \leq A.M.$ (b) $H.M. \geq G.M. \geq A.M.$ (c) $A.M < G.M. < H.M.$ (d) None of these
- 4) A single letter is selected at random from the word PROBABILITY. The probability that it is vowel is
(a) $\frac{3}{11}$ (b) $\frac{2}{11}$ (c) $\frac{4}{11}$ (d) 0

Part-B

4 x 2 = 8

- 5) Find the Harmonic mean of 6, 14, 21, 30
- 6) Prices of a particular commodity in two cities are given below.

City A	40	80	70	48	52	72	68	56	64	60
City B	52	75	55	60	63	69	72	51	57	66

Which city has more stable price

- 7) In a shooting test the probabilities of hitting the target are $\frac{1}{2}$ for A, $\frac{2}{3}$ for B and $\frac{3}{4}$ for C. If all of them fire at the same target, calculate the probabilities that
(i) all the three hit the target
(ii) only one of them hits the target
(iii) atleast one of them hits the target
- 8) There are two identical boxes containing respectively 4 white and 3 red balls, 3 white and 7 red balls. A box is chosen at random and a ball is drawn from it. Find the probability that the ball is white, what is the probability that it is from first box?

Part-C

6 x 3 = 18

- 9) Obtain Mean, Median and Mode for the following data

Value (X)	0	1	2	3	4	5
Frequency (f)	8	10	11	15	21	25

- 10) Calculate the Harmonic mean from the following data

X :	10	12	14	16	18	20
f :	5	18	20	10	6	1

- 11) Find the value of range and its coefficient for the following data

6	8	5	10	11	12
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- 12) For the data given below, calculate standard deviation.

25, 32, 53, 62, 41, 59, 48, 31, 33, 24.

- 13) Compute the standard deviation for the following data

Class interval	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	8	12	17	14	9	7	4

- 14) One number, out of 1 to 20 number, is selected at random. What is the probability that it is either a multiple of 3 and 4.

Part-D

4 x 5 = 20

- 15) Calculate the Harmonic mean for the following data

Size of items	50-60	60-70	70-80	80-90	90-100
No. of items	12	15	22	18	10

- 16) Calculate range and its coefficient from the following distribution.

Size	20-22	23-25	26-28	29-31	32-34
Number	7	9	19	42	27

- 17) A factory has 3 machines A_1, A_2, A_3 producing 1000, 2000, 3000 bolts per day respectively. A_1 produces 1% defectives, A_2 produces 1.5% and A_3 produces 2% defectives. A bolt is chosen at random at the end of a day and found defective. What is the probability that it comes from machine A_1 ?
- 18) In a bolt factory machines A_1, A_2, A_3 manufacture respectively 25%, 35% and 40% of the total output. Of these 5, 4, 2 percent are defective bolts. A bolt is drawn at random from the product and is found to be defective. What is the probability that it was manufactured by machine A_2 ?
