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ONLINE INTERMEDIATE EXAMINATION/ASSESSMENT, 2020.
Department of Commerce
B.COM 3rd SEMESTER
BUSINESS MATHAMETICS & STATISTICS

Group-A

Marks: 50

MATHAMETICS

I. Answer the following questions:

5 x 4 = 20

1. Find ${}^{10}C_5$.

(A) 18! (B) 252 (C) 2! (D) 9

2. In how many ways can a team of 7 players be formed out of 11 players?

(A) 330 (B) 11! (C) 7! (D) 1980

3. $U = \{1,2,3, \dots, 10\}$, $A = \{2,4,7\}$. If A' is the complement of the set A, then $A' = ?$

(A) $\{1,3,6,9,10\}$ (B) $\{1,2,3,6,9,10\}$ (C) $\{1,2,3,5\}$ (D) $\{1,3,5,6,8,9,10\}$

4. If $A = \{1, 2, 3, 4\}$, $B = \{2, 4, 6, 8, \}$. Then find $A - B$.

(A) $\{1, 2, 3, 4\}$ (B) $\{2, 4, 6, 8, \}$ (C) $\{1, 3\}$ (D) $\{2, 4\}$

5. Find 3rd term of the expansion $(a + x)^{10}$

(A) $45 a^8 x^2$ (B) $-45 a^8 x^2$ (C) $45 a^2 x^8$ (D) $-45 a^2 x^8$

STATISTICS

II. Answer the following questions:

5 x 4 = 20

6. The co-efficient of co-relation in between a sample of observation is 0.25. If the sum of the squares of differences in ranks is 63, then find the total number of observations

(A) $n=8$ (B) $n=9$ (C) $n=7$ (D) $n=10$

7. Pearsonian co-efficient of co-relation is found by formula:

(A) $r = \frac{\sum xy}{\sum x^2 \times \sum y^2}$ (B) $r = \frac{\sum xy^2}{\sum x^3 \times \sqrt{y^3}}$ (C) $r = \frac{\sum x^2 y^2}{\sum x^2 \times \sqrt{y^2}}$

$$(D) r = \frac{\sum xy}{\sqrt{\sum x^2} \times \sqrt{\sum y^2}} \quad \text{where } x = X - \bar{X} \text{ \& } y = Y - \bar{Y}$$

i.e deviations from A.M of
X & Y series respectively.

8. With which component of a time series would you associate the following:
Decrease of death rate due to advancement in medical science. Ans. _____.
(A) Trend (B) Irregular (C) Seasonal (D) Cyclical
9. If $r = +1$, the two regression lines become
(A) Coincident (B) parallel (C) perpendicular (D) either (ii) or (iii)
10. The Co-relation co-efficient between x and y is 0.3. Then the co-relation co-efficient between -2x and 3y is
(A) 0.3 (B) -0.3 (C) -0.2 (D) -0.6

Group-B

MATHAMETICS

III. Answer the following questions:

2 x 2 = 4

1. Find the 4th term in the expansion of $\left(\frac{x}{a} - \frac{a}{x}\right)^{10}$

(A) $-\frac{110x^4}{a^4}$ (B) $\frac{110x^4}{a^4}$ (C) $\frac{120x^4}{a^4}$ (D) $\frac{-120x^4}{a^4}$

2. $6! - 4!$ is equal to

(A) 669 (B) 696 (C) 20 (D) 720

STATISTICS

IV. Answer the following question:

3 x 2 = 6

3. A bag contains 3 white and 4 red balls. What is the probability that a ball drawn at random will be white?
(A) $\frac{1}{7}$ (B) $\frac{4}{7}$ (C) $\frac{3}{7}$ (D) $\frac{1}{3}$
4. The one that that is useful for forecasting is short term is the component of _____
(A) Cyclical (B) Seasonal (C) Irregular (D) Trend
5. An unbiased dice is thrown. Find the chance that any one of 1,4,5 turns up
(A) $\frac{1}{6}$ (B) $\frac{1}{2}$ (C) $\frac{1}{4}$ (D) $\frac{1}{5}$

Submit your answer at this email id- vm.bcomhonours@gmail.com OR vm.bcompass@gmail.com