

INDIAN MARITIME UNIVERSITY
(A CENTRAL UNIVERSITY, GOVT. OF INDIA)
End Semester Examinations-June 2019
MBA (Port & Shipping Management)
SEMESTER II
QUANTITATIVE TECHNIQUES FOR BUSINESS (PG21T1201)

Date: 10.06.2019
Time: 3 hours

Max Marks: 75
Pass Marks:38

SECTION A

10×1=10

Answer all questions. All questions carry equal marks

1. Statistics is applied in
 - a. Economics
 - b. Business Management
 - c. Commerce and Industry
 - d. All the above
2. The quickest method of collecting primary data:-
 - a. Personal Interview
 - b. Indirect Interview
 - c. Telephone Interview
 - d. By observation
3. Modal value of 0,3,5,6,7,9,12,0,2 is
 - a. 6
 - b. 0
 - c. 3
 - d. 5
4. To measure the deviations of an open end series the suitable measure of dispersion is
 - a. Quartile deviation
 - b. Mean deviation
 - c. Standard deviation
 - d. None of these
5. If an unbiased coin is tossed once, then the two events head and tail are :
 - a. Mutually exclusive
 - b. Exhaustive
 - c. Equally likely
 - d. All the above

6. _____ of all probabilities is equal to 1
 - a. Sum
 - b. Difference
 - c. Product
 - d. None of the above
7. What type of data do you need for a chi square test?
 - a. Parametric
 - b. Scales
 - c. Categorical
 - d. None of the above
8. What do ANOVA calculate?
 - a. F ratios
 - b. Z-Scores
 - c. T-Scores
 - d. None of the above
9. Differentiation refers to the process whereby we:
 - a. Calculate the intercept of a curve with the vertical axis
 - b. Calculate the gradient to a curve at any point on the curve
 - c. Calculate the area underneath a curve
 - d. None of the above
10. Operation research involves _____ attack of complex problems to arrive at the optimum solution
 - a. Scientific
 - b. Systematic
 - c. Both (a) and (b)
 - d. Statistical

Section B

(5×5=25)

Answer any five from the following seven questions

11. Calculate A.M from the following data:

Marks obtained	4	8	12	16	20
No. of students	6	12	18	15	9

12. Based on the information on 1000 randomly selected fields about the tenancy status of the cultivators of these fields and use of fertilizers, collected in an agro economic survey, the following classification was noted :

	Owned	Rented	Total
Using fertilizers	416	184	600
Not using fertilizers	64	336	400
Total	480	520	1000

Would you conclude that owner cultivators are more inclined towards the use of fertilizers at 5% level? (Table value for $v=1$, $\chi^2_{0.05}=3.84$)

13. Explain the importance of calculus in business management?
 14. Explain the basic principles of ANOVA?
 15. Write short notes on Mutually Exclusive events?
 16. Explain the importance and scope of Statistics?
 17. Express the following LPP in standard form.

$$\text{Minimize } Z=5x_1+7x_2$$

Subject to

$$x_1 + x_2 \leq 8$$

$$3x_1 + 4x_2 \geq 3$$

$$6x_1 + 7x_2 \geq 5$$

$$\text{and } x_1, x_2 \geq 0$$

SECTION C

4×10=40

Answer question no. 18 (compulsory) and any 3 (three) from the rest

18. Two cards are drawn from a pack of cards at random .What is the probability that it will be (a) a diamond and heart,(b) a king and a queen (c) two kings ?
19. Solve the following LP problem using graphical method

$$\text{Maximize } z=5x_1+3x_2$$

Subject to

$$3x_1 + 5x_2 \leq 15$$

$$5x_1 + x_2 \leq 10 \text{ and } x_1, x_2 \geq 0$$

20. Explain the Significance of L-Hospital rule in calculus.
21. Why non-parametric test is useful in business management?
22. Explain the significance of measuring variation?
23. "Linear programming is used for obtaining the most optimal solution for a problem with given constraints"- discuss