

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)

May/June 2017 End Semester Examinations
M.B.A. (Port and Shipping Management) Second Semester

Quantitative Techniques for Business (PG21T1201)
(From 2009-10 to 2014-15 batches only)

Date : 15.06.2017
Time: 3 Hrs

Maximum Marks: 75
Pass Marks : 38

SECTION -A (10 × 1 mark =10 marks)

Answer all questions. All questions carry equal marks

1. The following one is not a type of classification of data
 - a. Factoring
 - b. Geographical
 - c. Chronological
 - d. Qualitative

2. Random sampling is also referred to as sampling
 - a. Non probability sampling
 - b. Probability sampling
 - c. Judgment sampling
 - d. Quota sampling

3. The number of observations corresponding to a particular class is known as of that class
 - a. Columns
 - b. Rows
 - c. Values
 - d. Frequency

4. Given mean = 25 and mode = 24, median=
 - a. 26.75
 - b. 24.78
 - c. 24.22
 - d. 24.67

5. Quartile deviation is of standard deviation
 - a. 0.7185
 - b. 0.6745
 - c. 0.5617
 - d. 0.8128
6. If $\beta_2 = 3$, the distribution is called
 - a. Platykurtic
 - b. Leptokurtic
 - c. Mesokurtic
 - d. None of the above
7. Probability ranges from to
 - a. 0 to 1
 - b. -1 to +1
 - c. $-\infty$ to $+\infty$
 - d. None of the above
8. If A and B are mutually exclusive events, $P(AB) = \dots\dots\dots$
 - a. 1
 - b. 0.5
 - c. 0
 - d. None of the above
9. In a standard normal distribution, the value of mean is
 - a. 1
 - b. 0
 - c. -1
 - d. None of the above
10. Requisite of good average
 - a. Easy to understand
 - b. Simple to compute
 - c. Sampling Stability
 - d. All of the above

Section - B (5 × 5 marks=25 marks)

Answer any five from the following seven questions

11. A ball is drawn at random from a box containing 6 red balls, 4 white balls, and 5 blue balls determine the probability that it is (i) Red, (ii) White (iii) Blue (iv) not red and (v) Red or White
12. In a certain box, the frequency distribution of the number of words per page may be taken as approximately normal with mean 800 and standard deviation 50. If three pages are chosen at random, what is the probability that none of them has between 830 and 845 words each?
13. Ten individuals are chosen at random from a normal population and their weights (in kgs) are found to be 63, 63, 66, 67, 68, 69, 70, 70, 71, 71. In the light of this data, discuss the suggestion that the mean height in the population is 66 inches.
14. Out of 320 families with 5 children each, what percentage would be expected to have (i) 2 boys and 3 girls and (ii) at least one boy? Assume equal probability for boys and girls?
15. Explain the significance of Linear programming in business? Give examples
16. Write short notes on L'Hospital rule, explain with examples
17. What is Multivariate Analysis and explain its uses?

SECTION – C (4× 10 marks=40 Marks)

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

18. Following are the marks obtained by two students A and B in 10 sets of examinations

Sets	1	2	3	4	5	6	7	8	9	10
Marks obtained by A	44	80	76	48	52	72	68	56	60	68
Marks obtained by B	48	75	54	60	63	69	72	51	57	56

If the consistency of performance is the criterion for awarding the prize, who should get the prize?

19. A test was given to 5 students chosen at random from the M Com class of each of the three universities in Bihar. Their scores were found as follows:

University	Scores				
A	90	70	60	50	80
B	70	40	50	40	50
C	60	50	60	70	60

Perform analysis of variance and show if there is any significant difference between the scores of students in the three universities (Given F at 5% = 3.44)

20. What is nonparametric test, when to use it?
21. Explain the steps adopted by the researcher while testing a hypothesis
22. Solve using simplex method the following problem:
Maximize $Z: 3x + 2y$
subject to $2x + y \leq 18$
 $2x + 3y \leq 42$
 $3x + y \leq 24$
 $x \geq 0, y \geq 0$
23. Explain the methods of primary data collection?
