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MANAGEMENT PROGRAMME (MP)

Term-End Examination

June, 2025

MS-08 : QUANTITATIVE ANALYSIS FOR MANAGERIAL APPLICATIONS

Time : 3 Hours *Maximum Marks : 100*

Weightage : 70%

Note : *(i) Section A has 6 questions each carrying 15 marks. Attempt any* ***four*** *questions from this Section.*

(ii) Section B is compulsory and carries 40 marks. Attempt both questions.

(iii) Use of calculator is permitted.

Section—A

1. Explain, what is meant by descriptive statistics and inferential statistics. Define the types of variables used in statistics and comment on their usage.

2. The incidence of occupational disease in an industry is such that the workmen have a 20% chance of suffering from it. What is the probability that out of 6 workmen 4 or more will contract the disease ?
3. A card is drawn from a pack of 52 cards. What is the probability that it is a diamond or jack ?
4. The supplies of components to the electronic industry makes a product which sometimes fails immediately it is used. The company controls manufacturing process so that the proportion of the faulty product is supposed to be only 5%. Out of 400 products supplied in one batch 26 proved to be faulty. Has the process gone out of control to produce too many faulty components ? (Given Z_{α} at 0.05 is 1.645).
5. What is a Chi-square distribution ? How would you use it in testing the goodness of fit of categorised data ?

6. Write short notes on any *three* of the following :

   (a) Null matrix

   (b) Skewness

   (c) Non-probability sampling methods

   (d) Least square criteria

   (e) Forecast control

Section—B

7. How do you test for difference between means when sample sizes are small ? Give formula.

8. Of a large group of men, 5% are under 58 inches and 40% are between 58 and 65 inches. Assuming a normal distribution, find the mean height and standard deviation.

   Given :

   Z value for area between μ and 65 is – 0.13.

   Z value for area between μ and 58 is – 1.645.

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