| MS-008

MANAGEMENT PROGRAMME

Term-End Examination

June, 2018

MS-008 : QUANTITATIVE ANALYSIS FOR MANAGERIAL APPLICATIONS

Time : 3 hours   *Maximum Marks : 100*
                                          (Weightage : 70%)

Note : (i) **Section A has six 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 permissible.*

SECTION - A

1. What is mode and the modal class ? State the equation of obtaining mode from grouped data. What do the various elements in the equation for mode signify ? Give some merits and demerits of mode.

2. Given that 25 per cent of the bottles in a godown contain milk unfit for consumption. The salesman at a retail outlet offers 5 bottles for sales on demand. Find,

    (a) Average number of bottles containing bad milk

    (b) Variance of the resultant binomial distribution

3. Bring out the points of similarities and differences between stratified sampling and cluster sampling. Which one is preferred in what circumstances ?

4. Nine management graduates appeared before a selection board consisting of two expert members (X and Y) for a post of probationary officer in a certain bank. If the rank order assigned by each of the two members is as given below, find the coefficient of rank correlation.

Rank order (X)	1	5	4	6	8	3	9	2	7
Rank order (Y)	2	6	3	5	8	4	7	1	9

5. It is claimed that a certain brand of video cassettes has an average running life of 75 hours with a variance of 49 hours. In order to verify the claim, a buyer performs a test check on 36 cassettes. He decides to place order for bulk purchase of the average running life is at the most within 2 hours on either side of the claim made. Find the risk of not placing the order when the claim about average running life of cassettes is indeed 75 hours.

(Given area under the standard normal curve from z to ∞ is 0.04363)

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

   (a) Scaler matrix

   (b) Skewness

   (c) Sampling with replacement

   (d) Pascal Distribution

   (e) Exponential Smoothing

SECTION - B

7. Discuss the applications of quantitative techniques in various functional areas of management.

8. A manufacturer of electric tubes finds his tubes have an average life of 1200 hours. To maintain this standard he keeps checking a sample of 18 tubes every now and then for their average life. He remains satisfied with the average life of tubes if the computed t values falls between $-t_{0.01}$ and $+t_{0.01}$. What conclusion should the manufacturer draw if a given sample yields mean life of 1205 hours and standard deviation of 9 hours ?

(Given the tabulated value of t is 2.567)

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