

**MS-08**

**Management Programme**

**ASSIGNMENT  
(January to December)  
2021**

**MS - 08: Quantitative Analysis for Managerial Applications**



**School of Management Studies  
INDIRA GANDHI NATIONAL OPEN UNIVERSITY  
MAIDAN GARHI, NEW DELHI – 110 068**

## ASSIGNMENTS

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<b>Course Code</b>	:	<b>MS -08</b>
<b>Course Title</b>	:	<b>Quantitative Analysis for Managerial Applications</b>
<b>Assignment No.</b>	:	<b>MS-08/TMA/SEM-I/2021</b>
<b>Coverage</b>	:	<b>All Blocks</b>

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**Note** : Attempt all the questions and submit to the coordinator of your study centre on or before 31<sup>st</sup> October, 2021.

1. The total cost,  $C(x)$  associated with producing and marketing  $x$  units of an item is given by

$$C(x) = 0.005x^3 - 0.02x^2 - 30x + 3000$$

- Find
- (i) Total cost when output is 4 units.
  - (ii) Average cost of output of 10 units.
  - (iii) Marginal cost when output is 3 units.
2. “The success of collecting data through a questionnaire depends mainly on how skillfully and imaginatively the questionnaire has been designed”. Explain some important points to be kept in mind while drafting a questionnaire.
3. In a society of 5000 people, 1200 are above 30 years of age and 3000 are female. Out of the 1200 who are above 30, 200 are female. Suppose after a person is chosen you are told that the person is a female. What is the probability that she is above 30?
4. A sample size 25 is picked up at random from a population which is normally distributed with a mean of 100 and variance of 36. Calculate:-
- (a)  $P_r\{ \bar{X} \leq 99 \}$
  - (b)  $P_r\{ 98 \leq \bar{X} \leq 100 \}$
5. “Economic or business oriented time series are made up of various components”. What are those components and also explain the relationship between them.