## No. of Printed Pages : 3

### **CSI-99**

## ADIT/BIT PROGRAMME

# Term-End Examination December, 2011

## **CSI-99 : STATISTICAL TECHNIQUES**

Time : 3 hours

00441

Maximum Marks: 75

Note	2:	Q.No. 1 is compulsory. Answer any THREE questions from the remaining. Use of calculator allowed.							
1.	(a)	Defir one s	Define each of the following concepts, with one suitable example for each. $5x3=15$						
		(i) (ii)	Bar Diagram Frequency Polygon						
· · .		í (iii)	Histogram						
		(iv)	Arithmetic Mean						
		(v)	Geometric Mean						
	(b)	Fill i	Fill in the blanks :						
		(i)	The median of the data : 5, 2, 7, 1, 11,13 is	21,					
		(ii)	The mode of the data : 5, 2, 7, 1, 11, 13 is	21,					
		(iii)	The variance of the data : 5, 2, 2 21, 11, 13, is	7, 1,					

#### **CSI-99**

1

### P.T.O.

- (iv) If E and F are two events and P (A) denotes the probability of event A then P(EUF) = ......
- (v) If C(n,r) denotes number of combinations of n objects taken r at a time, then

C(n, r) = .....

(a) For the following frequency distribution of 7 scores of 40 students (out of 10 marks) given as follows :

Score :	0	1	2	3	4	5	6	7	8	9	10
Frequency :	2	7	8	5	2	3	0	6	4	2	1

Find the mean of the distribution.

- (b) For the frequency distribution given in Q.No. 2 (a). Find the variance.
- 3. (a) Suppose a six-faced dice/die is thrown twice. Describe each of the following events : 3x2=6
  - (i) The total score is 9.
  - (ii) Each throw results in an even score.
  - (iii) Each throw results in an even score larger than 2.
  - (b) For each of the events given in Q.No. 3(a) **3**x**3**=**9** above, find the probability.

**CSI-99** 

2

8

4.

5.

(a) Define the following concepts, each with a suitable example : 3x3=9

(i) Two events being dependent

(ii) Random events

- (iii) Sample space
- (b) A farmer buys a quantity of seeds from a company that claims that approximately 70% of seeds will germinate if planted properly. If five seeds are planted, what is the probability that exactly three will germinate ?
- (a) Calls at a telephone switch board occur at an average rate of six calls per 10 minutes. Suppose the operator leaves for a 5-minute break. What is the probability that exactly two calls come in (and so are unanswered) while the operator is away ? (Use Poison's Distribution)
  - (b) Define each of the following concepts
    - (i) Sampling distribution of statistics
    - (ii) Estimator
    - (iii) Null Hypothesis

**CSI-99** 

**3**·

6

6

9.