

**I.M.C.A. SEM-IV (2014 COURSE) CBCS : SUMMER - 2018**  
**SUBJECT : STATISTICS**

Day : **Saturday**  
 Date : **05/05/2018**

**S-2018-1763**

Time : **10.00 AM TO 01.00 PM**  
 Max. Marks : 100

**N. B. :**

- 1) Attempt **ANY FOUR** questions from Section – **I** and attempt **ANY TWO** questions from Section – **II**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.
- 4) Use of non-programmable calculator is **ALLOWED**.
- 5) Graphs should be drawn on **GRAPH PAPERS** only.

**SECTION – I**

**Q. 1** Define Statistics. Explain its importance in brief. **(15)**

**Q. 2** Draw Histogram and Frequency Polygon for the following data: **(15)**

Daily Wages	10-15	15-20	20-25	25-30	30-35	35-40	40-45
No. of Workers	15	20	35	45	60	30	5

**Q. 3** Calculate mean, median and mode for the following data: **(15)**

Class	100-200	200-300	300-400	400-500	500-600
Frequency	5	15	30	20	10

**Q. 4** Using Coefficient of Variation find which of the following batsman is more consistent in his scores? Why? **(15)**

Score of A	45	120	8	75	9	20	120	40	85	30
Score of B	48	15	80	45	8	50	30	46	15	3

**Q. 5** Height in cm of 50 students in a class are given below: **(15)**

168 169 168 165 161 167 162 171 167 159  
 166 170 159 166 164 162 157 171 168 157  
 170 160 169 164 169 171 166 163 169 172  
 167 163 161 171 157 167 158 162 168 167  
 164 162 161 168 163 172 160 158 168 169

Prepare a frequency distribution table using classes as 157 – 160, 160 – 163...  
 Also find the relative frequencies.

**Q. 6** Represent the following data using Pie Diagram: **(15)**

Group of Item	Average monthly expenses (in Rs.) of a family
Food	2400
Clothing	1400
House Rent	1600
Fuel and Lighting	600
Miscellaneous	2000

**P. T. O.**

- Q.7** Write short notes on **ANY THREE** of the following: **(15)**
- Scope of Statistics
  - Measures of Dispersion
  - Correlation v/s Regression Analysis
  - Analysis of Time Series

**SECTION - II**

- Q.8** Define primary and secondary data. Explain various primary data collection methods in brief. **(20)**

- Q.9** Estimate trend using 4 yearly moving average method for the following data: **(20)**

Year	2001	2002	2003	2004	2005	2006	2007
Production (in '000 tonnes)	464	515	518	467	502	540	557

- Q.10 a)** Calculate the Karl Pearson's Coefficient of Correlation between advertisement cost (x) and sales (y) from the following data: **(10)**

Advertisement ('000 Rs.)	41	67	65	92	84	77	27	100	38	80
Sales (Lakhs Rs.)	46	52	57	85	61	67	59	90	50	83

- b)** Obtain line of regression of y on x for the data given below: **(10)**

X	06	02	10	04	08
Y	09	11	05	08	07

Also estimate y when  $x = 5$ .

\* \* \* \* \*