OLD

2017

Part II 3-Tier

STATISTICS

(General)

PAPER—III

(PRACTICAL)

Full Marks : 100

Time : 4 Hours

The figures in the margin indicate full Marks.

Answer *all* questions.

1. Draw ogives both less-than type and more-than type from the following data :

Marks :	0-20	20–40	40–60	60–80	80–100
No. of Students :	10	30	60	40	10

8

2. The number of runs scored by cricketers A and B during a test series consisting of 5 test matches is shown below for each of the 10 innings :

Cricketer A : 5, 26, 97, 76, 112, 89, 6, 108, 24, 16

Cricketer B : 51, 47, 36, 60, 58, 39, 44, 42, 71, 50

Make a comparative study of their batting performance. 8

3. A new-born baby was weighted weekly from birth and such weights (y) in ounces against age (x) in weeks are shown below :

x	0	1	2	3	4	5	6	7	8
y	119	141	144	149	150	158	161	166	170

Fnd a linear regression line and regression parabola of the second degree of weight on age from the data. 8

4. From the following data on shoe prices and quantities, compute :

(i) Fisher's ideal index,

(ii) Laspeyers' price index,

(iii) Paasche's price index and

(iv) Edward-Marshall price index.

Type of Shoe	Price (in Rs.)		Quantity	
	2010	2015	2010	2015
Male	170	200	35	52
Female	120	140	55	80
Children	100	120	26	36

5. On the basis of annual data on the yield-rate of cotton, September rainfall, November rainfall and November maximum temperature for an Indian district, the total correlation coefficient were computed and their values are given below :

$r_{12} = 0.410$ $r_{23} = 0.287$

$r_{13} = 0.307$ $r_{24} = -0.239$

$r_{14} = -0.619$ $r_{34} = -0.517$

Calculate (i) $r_{12.4}$ (ii) $r_{13.4}$ (iii) $r_{23.4}$ and (iv) $r_{13.24}$ 8

Group —B

6. The numbers of defective items in 16 lots, each of 2000 items are shown below :

264 124 424 430 216 340 224 216

402 356 305 337 306 280 332 250

Draw a control chart for the fraction defective and comment on the state of control. 10

7. From the following data, find

(a) Crude Death Rates,

(b) Specific Death Rates for each age group, for town I and II separately and hence comment on the results :

Age - group (Years)	Town-I		Town-II	
	Population	No. of deaths	Population	No. of death
0 - 9	1,500	45	6,000	150
10 - 24	3,000	15	5,000	20
25 - 44	5,000	30	6,000	30
45 and over	500	12	3,000	54
Total	10,000	102	20,000	254

10

8. A six-faced die was thrown 300 times, and the number of points obtained at each throw was recorded. Then the following frequency distribution was formed. Use these data to test whether the die was unbiased. 10

Number of points per throw	1	2	3	4	5	6
Frequency	31	52	46	40	54	71