

**NEW**  
**2015**  
**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.

**Group—A**

1. Draw Ogives (of less-than and greater-than type) for the frequency distribution of Height for 177 Indian Adult Males and hence find the median height : 6+2

Height (cm) Class-Interval	Frequency
144.6 — 149.5	1
149.6 — 154.5	3
154.6 — 159.5	24
159.6 — 164.5	58
164.6 — 169.5	60
169.6 — 174.5	27
174.6 — 179.5	2
179.6 — 184.5	2
Total	177

2. Obtain the value of  $\log 96$  approximately from the following table by using appropriate interpolation formula :

x	95	97	98	99
$\log x$	1.9777236	1.9867717	1.9912261	1.9956352

8

3. Following are the population (in lakhs) of a state at ten years intervals :

Year	: 1941	1951	1961	1971	1981
Population	: 31.9	36.1	43.6	54.7	68.6
	(in lakhs)				

By fitting an exponential curve, estimate the population at 1991.

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4. Compute price indices from the following data by (a) simple aggregative method, (b) weighted aggregative method, (c) simple average of price relative method, (d) weighted average of price relative method by using the arithmetic mean :

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Expenses on	Food	Rent	Clothing	Fuel	Others
	30%	15%	20%	10%	25%
Price in 2000 (Rs.)	100	20	70	20	40
Price in 2005 (Rs.)	90	20	60	15	55

5. Obtain the Spearman's rank correlation coefficient for the following data :

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X :	68	64	75	50	64	80	75	40	55	64
Y :	62	58	68	45	81	60	68	48	50	70

**Group—B**

6. The numbers of defective 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 comments on the results : 10

Age-group (Years)	Town I		Town II	
	Population	No. of deaths	Population	No. of deaths
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

8. Below are given the gain in weights (in kgs.) of pigs fed on two diets A and B :

*Gain in weight*

Diet A : 25 32 30 34 24 14 32 24 30 31

Diet B : 44 34 22 10 47 31 40 30 32 35

Diet A : 35 25

Diet B : 18 21 35 29 22

9. The standard deviations calculated from two random samples of sizes 9 and 13 are 2.1 and 1.8, respectively. May the samples be regarded as drawn from normal populations with the same standard deviation? 10
10. Practical Note Book 10
11. Viva-Voce. 10
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