

NEW
Part II 3-Tier
2017

STATISTICS

(Honours)

PAPER—VA

(PRACTICAL)

Full Marks : 50

Time : 4 Hours

The figures in the margin indicate full Marks.

Answer all questions.

1. The following table gives the production of iron ore (lakh tonnes) in India from 1976 to 1979 for the different quarters of the year :

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Year	1st quarter	2nd quarter	3rd quarter	4th quarter
1976	126	108	79	113
1977	131	110	73	110
1978	116	90	72	108
1979	124	97	69	101

Compare the seasonal indices obtained by Ratio-to-trend method assuming linear trend.

(Turn Over)

2. The additional hours of sleep gained after using each of two drugs by the same group of 12 patients are give below:

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Sl. no. of Patient	Additional hours of sleep	
	Drug 1	Drug 2
1	2.1	3.6
2	0.2	4.7
3	0.9	1.8
4	3.8	5.5
5	3.5	4.6
6	-0.2	-0.3
7	-1.3	-0.4
8	-0.3	1.9
9	-1.7	2
10	0.7	1.7
11	-0.8	2.1
12	1.3	1.1

Test whether the second drug gives, on the average, atleast an hour more of sleep than the first drug.

3. The following table gives the population of a country for the year 2010, along with the estimated number of births and deaths based on a special vital statistics enquiry conducted in the country. Calculate — 12

- (i) General fertility rate (GFR),
- (ii) Total fertility rate (TFR),
- (iii) Gross reproduction rate (GRR) and
- (iv) Net reproduction rate (NRR)

Age (l. b. d)	Male		Female		Births		Survival Rates
	Population	Deaths	Population	Deaths	Male	Female	
0 - 4	442532	18623	434980	17308			
5 - 9	419042	1809	416736	1709			
10 - 14	393543	984	384616	1638			
15 - 19	308269	1233	314056	1329	3578	3343	0.914
20 - 24	257852	1289	269340	1481	7293	6690	0.899
25 - 29	230629	1776	236187	1677	6775	6361	0.844
30 - 34	204188	1633	203477	1465	4233	4187	0.868
35 - 39	182270	1588	176534	1289	2999	2685	0.852
40 - 44	162509	1967	145037	1233	593	725	0.834
45 - 49	128784	2138	122946	1352	129	128	0.819
50 - 54	102971	1905	96589	1188			
55 - 59	80717	2478	78311	1605			
60 - 64	58899	3099	58142	1980			
65 - 69	37797	2428	39099	2468			
70 -	45099	5981	48866	7175			

4. Twenty five guinea pigs are suffering from a disease. in order to study the therapeutic value of a serum, it is administered to a randomly selected group of 15 guinea pigs, the remaining 10 being left untreated. The results are as follows. 5

	Treated	Untreated
Recovered	9	3
Died	6	7

Would you consider the serum beneficial?

5. The following data relate to the wholesale prices (in suitable unit) of cereals at selected centers in India during two different weeks together with the corresponding weights. How did the wholesale prices of cereals in India differ in the above two weeks? 5

Item	Weight	Week ending 17 -11 - 2014	Week ending 21 -12 - 2015
Rice	224	40.50	37.50
Wheat	106	38.50	37.40
Jowar	19	36.25	30.50
Bazra	10	35.50	32.44
Barley	10	33.30	31.25
Maize	9	33.00	31.06
Ragi	4	30.12	32.75

6. Practical note book and Viva-voce.

5+5