

B.A. (Honours) Examination, 2014
Semester - I
Integrated Mathematics & Statistics (Subsidiary)
Paper : S-1.1

Time: Three Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer *any four* questions.

1. (a) What are the main differences between primary data and secondary data?
 (b) Classify the methods generally employed in the collection of secondary data? 4+6
2. (a) What do you mean by cumulative distribution?
 (b) From the table given below, calculate the median –
 Marks: 11-15, 16-20, 21-25, 26-30, 31-35, 36-40.
 No. of students: 7 10 13 26 35 22
 Marks: 41-45 46-50
 No. of students: 11 5 5+5
3. For the variable x , taking the values $0, 1, 2, \dots, k$, the cumulative frequency of more than type are $F_0, F_1, F_2, \dots, F_k$. Show that $\bar{x} = \frac{\sum_{i=1}^k F_i}{n}$, where n is the total frequency. 10
4. The mean monthly salary paid to all employees in a certain company was rupees 500t. The mean monthly salaries paid to male and female employees were 420 and 520 rupees respectively obtain the percentage of male to female employees in the company. 10
5. The arithmetic mean of two of observations is 25 and their geometric mean is 15. Find their harmonic mean. 10
6. You are given the following incomplete frequency distribution. It is known that total frequency is 1000 and the median is 413.11. estimate by calculation the missing frequencies 10

Values	300-325	325-350	350-375	375-400	400-425	425-450	450-475	475-500
Frequency	5	17	80	?	326	?	88	9
7. Compute the standard deviation from the following distribution of marks obtained by 90 students 10

Marks	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
No. of students	5	12	15	20	18	10	6	4
8. A frequency distribution gives following results:
 (i) Co efficient of variation = 5, (ii) Variance = 4, (iii) Karl Pearson's coefficient of skewness = 0.5.
 Find the mean and mode of the distribution. 10