

(Gen.) S.D.E.  
M.B.A. SEM-I (2013 COURSE) : SUMMER - 2018  
SUBJECT : STATISTICAL TECHNIQUES

Day : Sunday  
Date : 24/06/2018

S-2018-4376

Time : 10.00 A.M. TO 1.00 P.M.  
Max. Marks : 70

**N.B.:**

- 1) Attempt **ANY FOUR** questions from Section – I and **ANY TWO** questions from Section – II.
- 2) Answers to both the sections should be written in the **SEPARATE** answer books.
- 3) Use of non programmable **CALCULATOR** is allowed.
- 4) Figures to the right indicate **FULL** marks.
- 5) Graph papers will be provided if required.

**SECTION – I**

- Q.1** The bill amounts of shoppers at a shopping mall (rounded to nearest integer) are [10]  
as follows:

762	652	532	666	711	888	685	725	760	632
509	611	777	589	844	666	580	899	699	624
603	715	732	859	715	650	860	621	660	789
892	789	555	800	527	700	690	800	877	674
800	852	838	869	720	742	810	710	728	680
666	810	871	574	657	842	867	899	616	735
590	582	690	746	758	720	792	739	830	629

- a) Construct a frequency distribution taking class intervals 500 – 550, 550 – 600,
- b) Draw histogram and locate mode graphically.

- Q.2** Calculate mean and median for the following: [10]

Variable	4	5	6	7	8	9	10	11	12
Frequency	15	18	20	22	25	20	17	13	10

- Q.3** For scores given by two examiners, compute Spearman's coefficient of rank correlation for the following data: [10]

Examiner A	75	78	80	75	82	66	82	76	67	50
Examiner B	62	65	72	60	71	50	70	60	50	40

- Q.4** The chances that a student will be selected for state swimmers team is 0.6. Find [10]  
the probability that, out of a batch of ten students,  
(i) no student will be selected.  
(ii) at least two students will be selected.

- Q.5** Write short notes on **ANY TWO** of the following: [10]

- a) Ogive Curves
- b) Scatter Diagrams
- c) Measures of Central Tendency
- d) Properties of Normal distribution

P.T.O.

**SECTION – II**

- Q.6** Two batsmen Virat and Imran made the following scores in a series of cricket matches. [15]

Virat	14	13	26	53	17	29	79	36	84	49
Imran	37	22	56	52	14	10	37	48	20	4

- a) Compute coefficient of variation for each player.  
 b) Who is more consistent scorer? Why?
- Q.7** a) The duration of a particular project is normally distributed with mean of 12 days and standard deviation of 3. what is the probability that: [07]  
 i) Project will be completed in 15 days?  
 ii) Project will be completed in 10 days?
- b) Loan applications at a bank are processed by two clerks A and B, with A processing 65% of the forms and B the remaining. Also, it is known that chances of error by A are 0.04 while for B, it is 0.02. If a form is selected at random from all the processed forms, find the probability that it was processed by A. [08]
- Q.8** The sales manager of an electronics company in Heavencity would like to develop a model for predicting the annual sales ('000) of his sales assistants based upon their years of experience. A random sample of 10 sales assistants was selected and the results are presented below: [15]

Sales Assistant	A	B	C	D	E
Years of experience	3	5	6	7	8
Annual Sales (in '000 rupees)	85	90	96	100	117

- a) Find the two regression lines.  
 b) Estimate the expected sales for a sales assistant with 9 years of experience.

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