Reg. No. : ....

Name : ....

I Semester M.A./M.Sc./M.Com. Degree (Reg./Sup./Imp.) Examination, November 2014
(2013 and Earlier Admn.)
COMMERCE
Paper – II : Quantitative Techniques

Time : 3 Hours   Max. Marks : 80

Instruction : *Answer all Sections.*

SECTION – A

Answer **any five** questions.

1. Give the classical definition of probability. What are the limitations of the classical approach ?   8

2. 4 dice are thrown 81 times. The occurrence of 3 or 5 is considered as success. In how many throws do you expect

   a) Exactly 2 success and

   b) Atleast one success.   8

3. Explain the properties of a normal distribution.   8

4. The equations of 2 regression lines are as follows :

   $20x - 8y - 6 = 0$

   $6x - 4y = -10$

   obtain the values of x and y.   8

5. Explain the various types of control charts for variables.   8

6. Explain the methodology of Operation Research.   8

7. Discuss the various advantages and limitations of Linear programming problems.   8

8. Differentiate between PERT and CPM.   8

SECTION – B

Answer **any two** questions.

9. The following table gives the number of days in a 50 days period during which automobile accidents occured in a town :   20

No. of accidents :	5	4	3	2	1	0
No. of days :	2	3	5	3	21	16

Fit a Poisson distribution to the above data.   20

10. In course of checking the quality of products while in a production process, the following were observed :   20

Sample No. :	1	2	3	4	5	6	7	8	9	10
No. of defects/unit :	0	2	4	5	2	5	7	3	8	4

Draw an appropriate control chart and interpret the chart to highlight the state of control in the process.

11. Comment on the following statements :

a) Operation Research is the art of winning war without actually fighting it.

b) Operation Research is the art of finding bad answers where worse exists.   20

12. The following table gives the activities in a construction project and other relevant information :

Activity :	1 – 2	1 – 3	2 – 3	2 – 4	3 – 4	4 – 5
Duration :	20	25	10	12	6	10

a) Draw a network diagram.

b) Find free, total and independent floats for each activity.

c) Which are the critical activities ?   20