60455

560

# First Semester M.Com. (F&A) Examination, February 2019
## (CBCS Scheme)
## FINANCE AND ACCOUNTING
## Paper – 1.5 : QT for Accounting & Finance

Time : 3 Hours Max. Marks : 70

***Instruction :*** *Answer **all** Sections.*

SECTION – A

Answer **any seven** sub questions. **(7×2=14)**

1. a) What is geometric progression ?

   b) What is random variable ?

   c) Differentiate between node and activity.

   d) What is carrying cost ?

   e) What is a uncertainty ?

   f) What is variance ?

   g) What is total float ?

   h) List the different time estimates in PERT.

   i) What are mutually exclusive events ?

   j) What do you mean by crashing in a project ?

SECTION – B

Answer **any four** questions of the following. **(4×5=20)**

2. Explain the managerial application of geometric progression.

P.T.O.

3. Consider the following problem :

   Minimize $Z = 3X_1 + 4X_2 - 5X_3$

   Subject to

   $2X_1 + 3X_2 - 5X_3 = 10$

   $X_1 - 2X_2 - 3X_3 = 8$

   $X_1, X_2, X_3 > 0$

   Define the dual of this problem.

4. Discuss the different types of decision making situations.

5. A bag contains 5 red balls, 6 green balls and 7 white balls. If you draw three balls at random what is the probability that you get all green colour balls ?

6. Draw a project network for the following data.

| 1 – 2 | 1 – 3 | 2 – 4 | 3 – 4 | 4 – 5 | 5 – 6 | 2 – 6 | 6 – 7 |
|---|---|---|---|---|---|---|---|
| 7 | 8 | 3 | 5 | 4 | 5 | 6 | 7 |

7. Discuss the properties of a normal distribution.

## SECTION – C

Answer **any three** questions. **Each** question carries **twelve** marks. **(3×12=36)**

8. A paper mill produces two grades of paper namely X and Y. Because of raw restrictions, it cannot produce more than 400 tons of grade X and 300 tons of grade Y in a week. There are 160 production hours in a week. It requires 0.2 and 0.4 hours to produce a ton of products X and Y respectively with corresponding profits of Rs. 200 and Rs. 500 per ton. Formulate the above as a linear programming problem to maximize profit and solve it.

9. Discuss any two inventory models with diagram.

10. A company needs 1000 electric drills per year. The ordering cost for these is Rs. 100/- per order and carrying cost is assumed to be 40% of the per cost unit. In orders of less than 120 drill costs Rs. 78/-. For orders of 120 or more the cost drops per Rs. 50/- per unit. Should the company take advantage of quantity discount ?

11. Explain the significance of inventory management in an organization.

12. A project has activities with the following normal and crash times and cost.

| Activity | Predecessor | Normal Time | Crash Time | Normal cost ₹ | Crash cost ₹ |
|---|---|---|---|---|---|
| A | – | 4 | 3 | 8,000 | 9,000 |
| B | A | 5 | 3 | 16,000 | 20,000 |
| C | A | 4 | 3 | 12,000 | 13,000 |
| D | B | 6 | 5 | 34,000 | 35,000 |
| E | C | 6 | 4 | 42,000 | 44,000 |
| F | D | 5 | 4 | 16,000 | 16,500 |
| G | E | 7 | 4 | 66,000 | 72,000 |
| H | G | 4 | 3 | 2,000 | 5,000 |

Determine a crashing scheme for the above project so that the total project time is reduced by 3 weeks.

---