UNIVERSITY OF PE TROLEUM & ENERGY STUDIES

DEHRADUN

End Sem Examination – May 2017

Name of the Program: BBA(LM) **Sem: 4**
Subject: Decision Making using spread Sheet (BBDl-121)
Max. Marks : 100 **Duration : 3 Hrs**
This question paper has 3 page(s).
This paper has 4 sections.
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Exchange of calculator is not allowed

Section A (20 Marks)

Note: Solve all questions of one section together.

Section A (Attempt all, 2 marks Each)

Fill in the blank

1. GOLF classification of inventory is based on----------
2. SDE classification of inventory is based on----------
3. Formula for buffer stock is----------

Write True or false

4. A constraint in the linear programming cannot restrict the value of objective function.
5. The northwest corner method seeks to optimize the solution.
6. The constraint has to be in the form of equality in linear programming model.
7. The graphical method to solve a linear programming model uses constraints only.
8. A feasible solution need not satisfy all the constraints.
9. Maximization of an objective function in LP model means maximum value with in a set of conditions.
10. Lead time is not considered for calculating Economic Order Quantity

Section B (Solve any four) (20 Marks) (5 marks each)

1. Make a classification diagram for difeent inventory models.

2. What is linear Programming model.

3. what is buffer stock

4. What are the method to solve transportation Problem

5. List five types of graph.

Section C (Solve any two) (30 marks) (15*2)

Question 1: A Contractor has to supply 10000 bearing per day to an automobile manufacturer. He finds that when he starts production run, he can produce 25000 bearing per day. The cost of holding a bearing in stock for a year is Rs. 2 and the set up cost of a production run is Rs. 180. How frequently should the production run be made. Assume 300 working days in a weak.

Question 2: A commodity is to be supplied at a contant rate of 200 units per day . Suplies of any amount can be obtained at any required time , but each order costs Rs. 50 . Holding Cost for commodity in inventory is Rs 2:00 Per day while the delay in supply of the item includes a penalty of Rs. 10 per day per unit.

find the **Q,** optimal Quantity and **t** , the reorder cycle period .

What would be the reorder quantity if penalty cost approaches to infinity?

Question 3: Discuss advantage and disadvantages of Goal Programming

Sec D (30 marks)

A firm is engaged in manufacturing of 2 products A&B . Product A uses 1 unit of Component P & 2 units of component Q , product B uses 2 unit of component p and 1 unit of component Q and 2 unit of Component R which is assembled in the factory uses 1 unit of component Q Component P &Q are purchased from the market , the firm has prepared the following forecast of sales and inventory for the next year.

Product (units)

	A	**B**
Sales	8000	15000
At the end of year	1000	2000
At the beginning	3000	5000

The production of both the product and the assembling of components R will be spread out uniformly through out the year. The Firm at present orders its inventory of component P&Q in quantities equivalent of 3 months consumption. The firm has been advised that savings in the purchasing of components can arise by changing over to the ordering system, based on economic ordering quantities. The firm has compiled the following data relating to the 2 components.

	P	Q
Components usage per annum	30,000	48,000
Price per unit	2.00	0.80
Ordering cost per order	15.00	15.00
Carrying cost per year	20%	20%

Questions (10 Marks Each)

1. Prepare a budget of production and requirement of components for the next year.
2. Find the EOQ
3. Based on EOQ calculate the savings arising from the switching over to the new ordering system, both in terms of cost, and reduction, in working capital.

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Mid Sem Examination – March 2017

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Section A (20 Marks)

Note: Solve all questions of one section together.

Write True or false

Section B (Solve any four) (5 marks each)

Section C **(Solve any two)** **(30 marks)** **(15*2)**

Sec D (30 marks)