

PGCIPWS- 2022

ASSIGNMENT BOOKLET

**POST GRADUATE CERTIFICATE IN INVENTORY PLANNING
(PGCIPWS)**

Last date for submission:

31st October for July 2022 Session

**School of Engineering and Technology
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110068**

Dear Student,

We advise you to go through your course material carefully and read all the section pertaining to assignments. A weightage of 30 per cent, as you are aware, has been earmarked for continuous evaluation which would consist of **one tutor-marked assignment** for each of MWR-01, MWR-02, MWR-03 and MIS-024 of this course. You have to score a minimum of 40 marks out of 100 marks in each of the assignments. **Submit your assignment response at Programme Coordinator (PGCIPWS), Block-C, School of Engineering & Technology, Indira Gandhi National Open University, Maidan Garhi, New Delhi - 110068**

A feedback form is enclosed with this assignment. Please complete it after solving this assignment and send it to the Course Coordinator (PGCIPWS) on the address specified on the feedback form.

Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully.

- 1) On top of the first page of your TMA answer sheet, please write the details exactly in the following format:

ENROLMENT NO:

NAME:

ADDRESS:

.....

.....

COURSECODE:

COURSE TITLE:

ASSIGNMENT NO.:

STUDYCENTRE: **DATE:**.....

PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.

- 2) Use only full size writing paper (but not of very thin variety) for writing your answers.
- 3) Leave 4 cm margin on the left, top and bottom of your answer sheet.
- 4) Your answers should be precise.
- 5) While solving problems, clearly indicate the question number along with the part being solved. Be precise. Recheck your work before submitting it.

Answer sheets received after the due date shall not be accepted.

We strongly feel that you should retain a copy of your assignment response to avoid any unforeseen situation and append, if possible, a photocopy of this booklet with your response.

We wish you good luck.

Assignment -1

(To be done **after** studying the course material)

Course Code: MWR-01

Course Title: Introduction To Inventory Planning

Assignment Code: MWR-01/TMA/2022

Maximum Marks: 100

Last Date of Submission: October 31, 2022

Note:

1. For any question worth 5 marks the word limit is 200 words, for a 10 mark question it is 350 words.
 2. All questions are compulsory. All questions carry equal marks.
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- Q.1 a) What is Inventory Control? Why industry keeps inventory? What are the different types of Inventory? 5
- b) What is the purpose of decoupling? Write down the function of inventory. 5
- Q.2 a) What are the advantages of Inventory Planning and Control? Discuss the Limitations of Inventory Planning and Control. 5
- b) What do you understand by transit inventory? How do you record it? Distinguish between anticipatory and fluctuatory inventory. What is the importance of inventories? 5
- Q.3 a) Discuss the common issues of inventory management in any Industry of your choice. 5
- b) Enumerate general problems of inventory management in service parts industry. 5
- Q.4 a) List out the challenges before the inventory planning. Discuss. 5
- b) Discuss the challenges with ICTs in inventory management. What strategies would you apply to encounter them? 5
- Q.5 For the following data as shown in Table 1.1 of inventory of a production stores, conduct A–B–C analysis and comment: 10

Table 1.1

Item No.	Consumption	Unit Cost
1	8000	0.65
2	33300	0.5
3	13800	0.4
4	7000	0.2
5	6500	0.3
6	20650	0.7
7	21650	0.08
8	10760	2.1
9	2520	6
10	10000	0.3
11	30000	0.6
12	27000	0.5

- Q.6 a) Distinguish between order cycle and inventory cycle. Discuss various costs involved in inventory control. 5
- b) Write short notes on the following 5
- (i) Stock Replenishment
 - (ii) Re-Order Period (ROP)
 - (iii) Re-Order Quantity (ROQ)
 - (iv) Re-Order Level (ROL)
- Q.7 a) What is Economic Order Quantity (EOQ)? What are the different assumptions made while deriving EOQ for a simple deterministic model? 5
- b) A manufacturer uses Rs. 20,000 worth of an item during the year. He has estimated the ordering cost as Rs. 28 per order and carrying cost as 13.6% of average inventory value. Find the optimal order size, number of orders per year, time period per order and total cost. 5
- Q.8 a) A contractor has to supply 10,000 bearings per day to an automobile manufacturer. He finds that when he starts production run, he can produce 25,000 bearings per day. The cost of holding a bearing in stock for a year is Rs. 2 and the setup cost of a production run is Rs. 180. How frequently should production run be made? Also find production run time and total variable cost (Assume 300 days in the year). 5
- b) Monthly demand for an item is 200 units. Ordering cost is Rs. 350, inventory carrying cost is 24% of the purchase price per year. The purchase prices are $P_1 = \text{Rs. } 10$ for purchasing $Q_1 < 500$; $P_2 = \text{Rs. } 9.25$ for purchasing $500 \leq Q_2 < 750$ and $P_3 = \text{Rs. } 8.75$ for purchasing $750 < Q_3$. Determine optimum purchase quantity. If the order cost is reduced to Rs. 100 per order, compute the optimum purchase quantity. 5
- Q.9 a) List different criteria which determine the effectiveness of any forecasting systems. Explain the effect of time and accuracy of forecasting in obtaining the effectiveness in the performance of an organization. 5
- b) A food processor uses a moving average to forecast next month's demand. Actual demand data for the past few months is available as given in the following Table 1.2: 5

Table 1.2

Month	13	14	15	16	17	18	19	20	21	22
Actual Demand (Units)	95	96	100	100	104	110	120	118	127	?

Find the actual demand for the 22nd month?

- Q.10 a) List and explain any five methods of inventory. What are the merits of a good inventory? List out the issues and challenges of inventory management. 5
- b) What are the types of stock verification? What is the need for stock verification in an industry or a retail store? Distinguish between periodic and continuous verification systems. 5