

(Please write your Enrollment Number)

Enrollment No. 09401032021

MID-TERM EXAMINATION
(Course Name B. Tech (IT/CSE/CSE-AI) (Semester 4)
(February, 2023) OFF LINE mode

Subject Code: BMA 210	Subject: Operation Management
Time : 1 ½ Hours	Maximum Marks : 30
Note: Q. 1 is compulsory.	

Q1

(2.5*4)

- Explain Productivity and differentiate between Total Factor Productivity and Partial Productivity ✓
- State any Five Principles of Management? ✓
- What is Organization Structure. Explain any one of its Format used in Industry? ✓
- Define Therbligs and mention their significance in micro-motion study? Draw any one Therbligs symbol and mention its significance? ✓

Q2 (Attempt any Two Parts) UNIT-1

(5,5)

- ABC manufacturing company plans to build a warehouse to serve its distribution centres in Kolkata (West Bengal), Faridabad (Haryana), Nagpur (Maharashtra) and Raipur, (Chhattisgarh).

The number of units to be shipped monthly from Company's warehouse to the distribution centres are shown in Table:

Location	Annual Shipping Volume	Coordinates in Km X	Coordinates in Y
Kolkata	10,000/-	320	252
Faridabad	14,500/-	265	185
Nagpur	18,500/-	421	362
Raipur	23,200/-	125	95

Find the appropriate location of the warehouse?

- What are the significant criteria that influence the selection of location of manufacturing plant? Explain them. ✓
- Differentiate between product layout and process layout? ✓

Q3 (Attempt any Two Parts) UNIT-2

(5,5)

- The monthly demand for office items is given in Table. Forecast the demand using 3-period and 5-period Simple moving average (SMA) method for the 6th and 12th month?

Table: Monthly demands for furniture for eleven months

Month	1	2	3	4	5	6	7	8	9	10	11
Demand	600	640	675	736	812	842	962	1012	867	788	942

- Explain various allowances given to workers and considered in the work study? ✓
- Explain Product Life cycle? ✓

End-Term Examination
(CBCS) (SUBJECTIVE TYPE)
B. Tech (IT/CSE/CSAI), 4th Semester
(May, 2022)

Q.P Code 2205107

Subject Code: BMA-210 Subject: Operations Management

Time : 3 Hours

Maximum Marks : 60

Note: Q. 1 is compulsory. Attempt one question each from the Units I, II, III & IV. Assume suitably missing data, if any and highlight it.

Q1.	Answer the following briefly:	(2.5*8=20)																						
	(a) What is Total Factor Productivity?																							
	(b) Differentiate between cycle graph and chrono cycle graph.																							
	(c) What is performance rating?																							
	(d) What is Material Requirement Planning?																							
	(e) What is the need for plant maintenance?																							
	(f) What is the significance of safety stock?																							
	(g) How normal time is different from standard time?																							
	(h) What is VED analysis for selective control of inventory?																							
UNIT-1																								
Q2.	(a) State the principles of Plant Layout.	(5)																						
	(b) What is Fixed Position Layout? Explain with the help of an example.	(5)																						
Q3.	Discuss briefly different types of Organization structures.	(10)																						
UNIT-2																								
Q4.	The data given in Table 1 refers to the past sales of production unit for last ten years. Forecast the demand for the next three years using least square method.	(10)																						
	Table 1 <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>Sales (in thousands)</th> </tr> </thead> <tbody> <tr><td>2012</td><td>40</td></tr> <tr><td>2013</td><td>43</td></tr> <tr><td>2014</td><td>47</td></tr> <tr><td>2015</td><td>49</td></tr> <tr><td>2016</td><td>52</td></tr> <tr><td>2017</td><td>56</td></tr> <tr><td>2018</td><td>58</td></tr> <tr><td>2019</td><td>60</td></tr> <tr><td>2020</td><td>65</td></tr> <tr><td>2021</td><td>68</td></tr> </tbody> </table>	Year	Sales (in thousands)	2012	40	2013	43	2014	47	2015	49	2016	52	2017	56	2018	58	2019	60	2020	65	2021	68	
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Q5.	Discuss briefly the procedure for method study. Also discuss the different recording techniques used in the study.	(10)																						
UNIT-3																								
Q6.	(a) The annual demand for a particular part is 8,000 units. The cost per unit is Rs. 5 and it costs Rs. 450 to place an order and to process the delivery. The inventory carrying cost is estimated at 9 per cent of average inventory investment. Determine (i) Economic order quantity (ii) Optimum number of orders to be placed per annum (iii) Minimum total cost of inventory per annum	(5)																						
	(b) Discuss briefly the reasons for holding inventories.	(5)																						
Q7.	(a) ABC company plans to sell an article at a local market. The articles are purchased at Rs. 50. The rent for the space is Rs. 20,000. The articles will be sold at Rs. 75. Determine the number of articles which must be sold (i) To break-even, (ii) To earn Rs. 4000 as profit, (iii) If the company sells 1200 articles, Calculate margin of safety and profit.	(5)																						
	(b) Discuss briefly the factors influencing make or buy decision.	(5)																						
UNIT-4																								
Q8.	Differentiate between preventive and breakdown maintenance.	(10)																						
Q9.	Write short notes on: (a) Failure analysis (b) Organisation for maintenance department	(10)																						