

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Mid-Semester Examination

Summer Semester, A. Y. 2022-2023

Course No. : BTM 4603

Time : 1.5 hours

Course Title : Operations Management

Full Marks : 75

Answer all 3 (three) questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) What is operations management? Why is it important? What do operations management professionals do? 15 (CO1) (PO1)
- b) There is a huge demand in the United States and elsewhere for affordable women's clothing. Low-cost clothing retailers such as Spain's Zara and Sweden's H & M are benefiting from their ability to quickly get mass produced, trendy new fashions to store shelves while some less-agile competitors like Macy's and Gap struggle to achieve the same results. A key factor for the agile retailers is their nearness to low-cost producers in Romania and Turkey, which greatly shortens transportation time. American retailers often source from China, but increasing wages there and the longer distance lessen their ability to take advantage of quickly introducing new low-cost fashions.
- Question:**
What possible solutions do you see for competitors such as Macy's and Gap?
2. a) Why is it important to match supply and demand? If a manager believes that supply and demand will not be equal, what actions could the manager take to increase the probability of achieving a match? 08 (CO3) (PO4)
- b) How can setting specific, measurable goals improve productivity in the workplace? 05 (CO1) (PO1)
- c) Compute the multifactor productivity measure for an eight-hour day in which the usable output was 300 units, produced by three workers who used 600 pounds of materials. Workers have an hourly wage of \$20, and material cost is \$1 per pound. Overhead is 1.5 times labor cost. 08 (CO2) (PO3)
- d) Strategies and tactics are very common words in operations management. Contrast the terms strategies and tactics. 04 (CO1) (PO1)
3. a) A manager checked production records and found that a worker produced 160 units while working 40 hours. In the previous week, the same worker produced 138 units while working 36 hours. Did the worker's productivity increase, decrease, or remain the same? Explain. 05 (CO2) (PO3)

- b) Forecasts are not perfect; actual results usually differ from predicted values. Explain why forecasts are generally wrong. 05 (CO1) (PO1)
- c) Compute MAD, MSE, and MAPE for the following data, showing actual and forecasted numbers of accounts serviced. 08 (CO2) (PO3)

Period	Actual	Forecast
1	250	225
2	650	620
3	255	245
4	358	450
5	164	175

- d) Forecasting is a crucial aspect of effective decision-making, yet in some cases it may be overlooked in operations. What level of ability would an organization need in order to be able to operate without relying on forecasts? 07 (CO1) (PO1)