

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
Department of Computer Science and Engineering (CSE)

SEMESTER FINAL EXAMINATION
 DURATION: 3 HOURS

SUMMER SEMESTER, 2022-2023
 FULL MARKS: 150

CSE 4807: IT Organization and Management

Programmable calculators are not allowed. Do not write anything on the question paper.

Answer all 6 (six) questions. Figures in the right margin indicate full marks of questions with corresponding COs and POs in parentheses.

1. Imagine a scenario where you are the manager of a new team of customer service representatives at a large retail company. The team is made up of employees with varying levels of experience, from those who are new to the job to those who have been with the company for several years. Your goal is to help each team member succeed and improve their performance.
 - a) Using Hersey and Blanchard's Situational Leadership model, identify the leadership styles you would use based on the employees' readiness mentioned above. 7
(CO1)
(PO1)
 - b) "All managers should be leaders, but not all leaders should be managers." — justify your position. 5
(CO2)
(PO2)
 - c) Currently, one of the most respected approaches for understanding leadership is path-goal theory. Discuss the preferred leadership behaviours based on different path-goal situations. 8
(CO1)
(PO1)
 - d) What sources of power are available to leaders and which are the most effective? 5
(CO1)
(PO1)

2.
 - a) All organizations do not have the same structure. What works for one organization may not work for another. Discuss the two generic models of organizational design and the contingency factors that favor each. 4 + 4
(CO1)
(PO1)
 - b) The basis on which jobs are grouped together in organizations is called departmentalization. Explain five common forms of departmentalization with example. 10
(CO1)
(PO1)
 - c) In response to marketplace demands to be lean, flexible, and innovative, managers are developing creative organizational design. Mention and describe such contemporary organizational design. 7
(CO1)
(PO1)

3. Suppose you are in charge of an electronics manufacturing facility. Your team is responsible for ensuring that the products meet the quality standards and are delivered to customers on time. However, you have noticed that the production process is facing delays, and the quality of the products does not meet the expected standards.
 - a) Using the three-step process of control, describe how you can identify the problem as a manager and take necessary actions to correct it. 8
(CO1)
(PO1)
 - b) Why is "what we measure" more critical in the control process than "how we measure"? Which control strategy would you choose as a manager if you had the choice between feed-forward, concurrent, and feedback controls? 5 + 7
(CO4)
(PO2)

- c) What do you understand by liquidity and leverage and how are these ratios calculated in a company?
4. a) A project is a temporary endeavor undertaken to create a unique product, service, or result. The product of a project can be tangible or intangible, depending on the project initiation contexts. Project life cycle is the series of phases that a project passes through from its start to its completion which can be predictive, iterative, incremental, adaptive, or a hybrid model.
- A car company has approved a project to construct engines that function on both electricity and gasoline, in accordance with specific needs — which categories of the project initiation factors does this scenario meet?
 - Describe the above mentioned project life cycles with example.
- b) Suppose that a project was estimated to be 400 KLOC. Calculate the effort and development time for each of the three modes of COCOMO model i.e., organic, semi-detached, and embedded.
5. a) Planning involves two important elements — goals and plans. What steps should managers follow in setting goals?
- b) What are the various tools and techniques managers use to maximize the benefits of planning?
- c) In choosing what businesses to be in, management can choose among three main types of corporate strategies — growth, stability, and renewal. Briefly describe them.
6. A project network and corresponding data table is given in Figure 1 and Table 1.

7
(CO1)
(PO1)

12
(CO1)
(PO1)

6
(CO3)
(PO1)

7
(CO1)
(PO1)

6
(CO1)
(PO1)

12
(CO1)
(PO1)

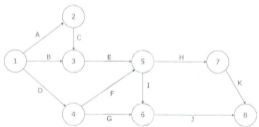


Figure 1: Project network for Question 6.b and 6.c.

Table 1: Data Table for Question 6.b and 6.c.

Task	A	B	C	D	E	F	G	H	I	J	K
Most optimistic time	4	5	8	2	4	6	8	5	3	5	6
Most pessimistic time	8	10	12	7	10	15	16	9	7	11	13
Most likely time	5	7	11	3	7	9	12	6	5	8	9

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| a) What is the difference between PERT and CPM? | 5
(CO1)
(PO1) |
| b) Calculate the expected task time and variance using Table 1 and Figure 1. | 8
(CO3)
(PO1) |
| c) Using data from Question 6.b, find the critical path, slack time after calculating the earliest expected time, and the latest allowable time. Draw the final network diagram based on Figure 1. | 12
(CO3)
(PO1) |