

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
 ORGANISATION OF ISLAMIC COOPERATION (OIC)
 DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Mid-Semester Examination	Winter Semester, A. Y. 2022-2023
Course No. : BTM 4707	Time : 1.5 hours
Course Title : Technology 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.

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| 1. | a) Describe different types of technologies with appropriate examples. | 06 | (CO1)
(PO1) |
| | b) Explain the major technology management activities applicable for a typical company. | 06 | (CO1)
(PO1) |
| | c) "Technology management requires a sound knowledge on interdisciplinary areas." Do you agree with this statement? Why or why not? | 13 | (CO1)
(PO1) |
| 2. | a) Assume that you are responsible for the management of technology of an automobile company. Describe the Research and Development (R&D) process in acquiring a new technology for that company. Illustrate how R&D process leads to sustainable competitive advantage of the business. | 12 | (CO2)
(PO2) |
| | b) Explain various external technology acquisition methods with the advantages and disadvantages. | 13 | (CO1)
(PO1) |
| 3. | General Electric (GE) wants to implement a framework for the management of technology based on process thinking. Technology management has traditionally focused on product-oriented research and development (R&D) and assumed a linear model of innovation, starting with science and progressing through technology and design to production. It is now increasingly recognized that this linear approach is only one of many and that production as well as product development can be a powerful and protectable source of competitive advantage. The management of production operations of GE has improved significantly over recent years. Many companies in the same industry have begun to replace conventional functional and hierarchical organizations with process approaches to operational activity and management decision making. Such approaches can lend structure and transparency to business operations, link activities more clearly to customer requirements and allow wider involvement of staff and collaborators. It is argued here that the explicit management of product and production technologies, using process thinking, can yield similar benefits. The R&D management, innovation and new product | | |

introduction ideas should come from corporate strategy. Therefore, a preliminary 'process framework' for technology management is proposed, covering the range of activities from identification to protection.

Based on the above scenario, answer the following questions:

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| i) Differentiate between technology management and innovation management. | 04 | (CO2)
(PO2) |
| ii) Select an appropriate technology management framework for GE. Analyze why GE should adopt a framework for technology management. | 08 | (CO2)
(PO2) |
| iii) "The R&D management, innovation and new product introduction ideas should come from corporate strategy". Based on the statement, analyze how GE can align its R&D management, innovation and new product introduction ideas with corporate strategy. | 13 | (CO2)
(PO2) |