

Program : M.Sc.TE 2-Yr, 3rd Sem.
Semester: Winter Semester

Date: 23 December, 2023
Time: 1:30 pm – 4:30 pm

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
DEPARTMENT OF TECHNICAL AND VOCATIONAL EDUCATION (TVE)

Exam: Semester Final Examination

Academic Year: 2022 – 2023

Course Number: TVE 6371

Full Marks: 150

Course Title: Systems Approach in Technical Education

Duration: 3 Hours

There are **8 (eight)** questions. Answer any **6 (six)** questions. The symbols have their usual meaning.

1. (a) Discuss briefly the concept of a systems approach. Explain the different elements of the systems approach. 15
(b) State the essential features of the systems approach. 10
2. (a) What is an organization? Explain briefly the key elements of an organization. 10
(b) Discuss briefly the concept of interfacing in terms of the systems approach. 5
(c) With a diagram explain how the business organization acts as a system with interrelated subsystems. 10
3. (a) Explain with a diagram the integration of systems concepts within a systems approach. 15
(b) Discuss the potential benefits of the systems approach. 10
4. (a) Define the concepts of systems analysis. How does it work in an educational organization? 15
(b) Describe in detail the major steps involved in systems analysis. 10
5. (a) Explain with a diagram the organization as a composite of 'strategic, coordinating, and operating subsystems'. 15
(b) Discuss in detail the process of boundary-spanners or BRP with a suitable example in terms of Technical Education. 10
6. (a) Discuss briefly the interrelationship between the systems approach and educational technology to enrich the learning outcomes in educational institutions. 10
(b) Explain briefly the major steps of the Systems Approach which enhance to use of Educational Technology. 15
7. (a) Discuss the concept of the system approach theory of management. Explain in detail the different important features of a systems approach to management thought. 20
(b) What are the limitations of the systems approach in the context of the theory of management? 5
8. (a) Explain briefly the concept of Human Engineering. How does it work as a systems approach? 10
(b) Discuss briefly the different approaches of ergonomics that influence workplaces. 5
(c) State the advantages and disadvantages of Ergonomics in light of the systems approach. 10