

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

Examination: Semester Final
Course No: TVE 4103
Course Title: Educational Psychology

Academic Year: 2023-2024
Full Marks: 120
Time: 2:00 hours

There are 4 (four) questions. Answer all of them.
Figures in the right margin indicate marks of the questions.

1. (a) How does cognitive conflict (disequilibrium) facilitate learning according to Piaget? Discuss an educational scenario where disequilibrium is intentionally introduced to promote critical thinking. (15) CO2
(b) How can pre-existing schemas lead to misconceptions in learning? Discuss an example from science or mathematics education where students struggle due to pre-existing schemas. (15) CO2
2. (a) What is object permanence, and during which stage of cognitive development does it emerge? Give an example. (5) CO2
(b) Define centration and explain how it affects a child's ability to understand conservation. (5) CO2
(c) Explain the concept of reversibility with an example. How does it contribute to a child's cognitive development? (10) CO2
(d) What is seriation? At what cognitive development stage does it emerge? How does seriation demonstrate a child's ability to think logically? (10) CO2
3. (a) How does Spearman's two-factor theory (g and s) explain individual differences in intelligence? (10) CO3
(b) What are the three components of Sternberg's triarchic theory of intelligence, and how do they relate to real-world problem-solving? (10) CO3
(c) Differentiate between crystallized and fluid intelligence. How does each type change over time? (10) CO3
4. (a) Explain the concept of motivation in learning. Discuss its key components—initiation, direction, and sustaining behavior—with relevant examples. (12) CO3
(b) Read each scenario carefully and identify the type of motivation demonstrated. Specify whether motivation is intrinsic, extrinsic, or amotivation. If applicable, indicate if the student has high or low levels of intrinsic and extrinsic motivation.
 - (i) Hafsa completes all her assignments on time because she wants to earn the highest grade in the class and receive a scholarship. (18) CO3
 - (ii) Dawood does not feel motivated to study for his upcoming exams. He doesn't care about his grades and sees no point in learning the subject.
 - (iii) Sarah enjoys solving complex math problems because they challenge her thinking, but she also works hard in math class because she wants to earn an academic award.
 - (iv) Mustofa participates in a science competition because his teacher promised extra credit. He is not particularly interested in science but wants to improve his grades.
 - (v) Sophia is preparing for a speech competition. She is deeply passionate about public speaking and enjoys the challenge, but she is also excited about the cash prize for the winner.
 - (vi) Tomal is enrolled in a history course but only attends lectures to avoid failing. He finds the subject uninteresting and does not put in extra effort beyond what is required.