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Programme: BScTE (4th Semester)

Date: 22 February 2023, Wednesday
2.00pm to 3.30pm

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

Mid Term Examination

Course No: TVE 4237

Course Title: Educational Measurement and Statistics

Summer Semester (2021-2022)

Time: 90 minutes

Full Marks: 75

There are four (4) questions. Answer any three (3) questions.

Figures in the right margin indicate marks of the questions. Symbols have their usual meaning.

1. a) Show with an illustration how assessment, measurement, test, and evaluation are interconnected. (5) CO1
b) How is the process of evaluation different from the process of measurement? (5)
c) Give an example of a measure of maximum performance and a measure of typical performance. Of what value is this distinction? (5)
d) What are some of the perceived advantages and disadvantages of fixed-choice tests relative to complex-performance assessments? (10)
2. a) Compare and contrast formative assessments with summative assessments. (4) CO1
b) In what ways do formative, summative, diagnostic and placement assessment take place in classroom settings? Give examples. (8)
c) What is frames of reference in assessment process? (3)
d) What is the purpose of norm reference test? A student received A+ in a course- How do you interpret this student performance according to norm reference test? As you are interpreting, what are the shortcomings you may consider while using norm reference interpretation. (10)
3. a) What is statistics? (4) CO2
b) Differentiate between descriptive and inferential statistics. Give one example for each. (6)
c) We are interested in the choices of specialization courses of this year's third year students at IUT. We randomly survey 10% of them. (i) What is the population? (ii) What is the sample? (iii) What is the parameter? (iv) What is the statistic? (v) What are the variables? (10)
d) Differentiate between univariate and bivariate analysis. Illustrate them with examples. (5)
4. a) Can observations on an interval or ratio scale be converted to an ordinal scale? Explain. (4) CO3
b) Is the measure "number of books included in a library's card catalog" a discrete variable? What measurement scale does it represent? (4)
c) If *A, B, C, D,* and *F* grades are used for statistical purposes, the letters are converted to 4, 3, 2, 1, and 0. Does this represent a ratio scale? Does the measure represent also represent an ordinal scale? (5)
d) To say, "This value is 25% greater than that value," requires which type of measurement scale? (4)
e) Dr. Jones, the history professor, administers a 30-item test the first day of class to ascertain his students' initial level of knowledge of American history. Bob got a 0, Joe a 10, Betty got 20, and Mark and Sheela each got a perfect 30. (8)
 - i) In all likelihood, what kind of scale of measurement is this? Explain.
 - ii) Can Dr. Jones conclude that Bob does not know anything about American history? Explain.
 - iii) Is Betty's knowledge of American history twice as great as Joe's? Explain.
 - iv) Can Dr. Jones conclude that Mark and Sheela have an equally good knowledge of American history? Explain.