Rangamati Science and Technology University

Department of Computer Science and Engineering

B.Sc. (Engg.) 1st Year 2nd Semester Midterm Examination - 01 (2020)

Session – 2019-2020, Course Code: CSE - 1202,

Course Title: Object Oriented Programming Language

Time: 01 hour Marks: 15

[Note: You should answer all subsections of the same questions consecutively]

1. a) Define OOP concepts with an example. 01
   b) Briefly describe the characteristics of object-oriented programming language. 04

Or

   a) Define variables and write down different data types available in Java with a variable declaration. 02
   b) Differentiate between object-oriented programming and structure programming. 03

2. State different types of errors available in Java Programming Language with appropriate examples. 05

Or

Briefly describe the process of creating, compiling, and running a Java Program. 05

3. a) Define Identifiers. 01
   b) Mention the **Java** identifiers rules with examples. 02
   c) Find out the **VALID** and **INVALID:** 02

i)	1_uits	v)	it1binary
ii)	@tutorial	vi)	totalNumber
iii)	Number1	vii)	BD teams
iv)	Else	viii)	invalid

Or

Write general syntax for ***if-else*** statements and briefly describe them with an appropriate example. 02+03

Rangamati Science and Technology University

Department of Computer Science and Engineering

1st Year 2nd Semester BSc.(Engg.) 1st Mid Term Examination-2020

Session: 2019-2020

Course Title: Discrete Mathematics; Course Code: CSE1201

Time-1Hour Total Marks-15

Figures in the right-hand margin indicate full marks.]

1. What is propositions? Construct the truth table of the following compound proposition. 4

$(p \vee \neg t) \wedge (p \vee \neg r)$

2. a) Show that the hypothesis "It is not sunny this afternoon and it is colder than yesterday "We will go swimming only if it is sunny. "If we do not go swimming, then we will take a canoe trip" and "If we take a canoe trip, then we will be home by sunset," Lead to the conclusion "we will be home by sunset." 2

b) State which rule of inference is used in the argument: 2

If it rains today, then we will not have a barbecue today. If we do not have a barbecue today, then we will have a barbecue tomorrow. Therefore, if it rains today, then we will have a barbecue tomorrow.

3. Let p and q be the propositions. 3

p: I bought a lottery ticket this week.

q: I won the million-dollar jackpot on Friday.

Express each of these following propositions as an English sentence.

i. $p \wedge q$ ii. $p \leftrightarrow q$ iii. $\neg p \leftrightarrow q$

4. Define tautology. Determine whether $(\neg p \wedge (p \rightarrow q)) \rightarrow \neg q$ is a tautology without using a truth table. 4

Rangamati Science and Technology University

1st Year 2nd semester Mid-Term 01 Examination-2020

Department of Computer Science and Engineering

Course Title: Digital Logic design Course Code: CSE-1204

Time: 01 Hour Marks: 15

1. **a)** Define digital signal, analog signal, digital waveforms & BCD code with example. **2**
   b) Write down the advantages of Digital signal. How could binary data be transferred? **3**

2. **a)** Why number system is essential? **1**
   b) Convert the following number as indicated: **4**

   i. $(D6B1.06A)_{16}$ to Decimal.
   ii. $(567)_8$ to Hexa.

3. **a)** What is Universal gate? **1**
   b) Show the truth table and timing diagram of - XOR gate for 3 bits, and AND gate for 4 bits. **4**

Rangamati Science and Technology University
Department of Computer Science and Engineering
2nd Semester Mid-Term Examination-2022
Marks-15 Time- 60 Minutes

1. Describe three states of matter. 3
2. What state of matter has definite volume and definite shape? 1
3. What is Boyle's gas law? Give example. 2+1=3
4. Give a graphical representation of Charles' law. 2
5. Explain Avogadro's law with example. 2+1=3
6. A sample of neon gas at 1.20 atm compresses from 0.250 L to 0.125 L. If the temperature remains constant, what is the final pressure? 2
7. What are the parameters of a gas? 1