

2022

## ELECTRONICS — HONOURS

Paper : SEC-B-1

(Internet and Java Programming)

Full Marks : 80

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.**Answer question no. 1 and any four from Unit-I and any four from Unit-II.*

2×10

1. Answer *any ten* questions :

- (a) What are internet protocols?
- (b) What is a router?
- (c) What is meant by hierarchy of data types?
- (d) Give two examples of primitive data types.
- (e) What are escape sequences?
- (f) Name any four assignment operators.
- (g) What is runtime exception in Java?
- (h) What is an object in Java?
- (i) What is meant by Boolean data type?
- (j) What is the use of the Scanner class in Java?
- (k) What is meant by exception handling?
- (l) What is subnet mask?

## Unit - I

1. List the hardware components required to connect to the internet and explain their specific roles in brief. 2+3
2. What are tokens, literals and identifiers in Java? Give two examples of each. 3+2
3. What is meant by implicit and explicit data type conversion in Java? Explain with examples. 2+3
4. What is meant by unary, binary and ternary operators in Java? Give one example of each. 3+2

Please Turn Over

6. What is an array in Java? How do you declare and initialize a two-dimensional array in Java? Give an example of a variable sized array in Java. 1+2+2
7. What is a thread and what is meant by multithreading? Name the Java methods to create, stop and block a thread. 2+3

### Unit - II

8. Name all the bitwise operators in Java. Explain the role of the >> and << operators. What would be the result of the operation : -10 >> 2? Explain. 3+2+2+3
9. What is the use of the switch statement in Java? Explain with a flowchart. Write a Java program using the switch statement which would read the digits 1, 2, 3,...7 from the keyboard and print the corresponding day of the week on the screen. 2+3+5
10. Name the different loop constructs in Java. What is the role of the break and continue statements? Write a program in Java using any one loop construct, to calculate and print the first 10 numbers of the Fibonacci series (1,1,2,3,5,8,13,...). 1, 1, 2, 3, 5, 8, 13, 21, 34, 55 2+3+5
11. Explain with an example, each of the following string manipulation functions in Java : IndexOf, substring, replace, concat and equals. 2+2+2+2+2
12. What is a class? How do you create an object of a class? Write a Java program with a class having two methods, to calculate and print the area and volume of a rectangular box whose dimensions are to be read from the keyboard. Use a main method to create an object of the above class and call the two methods from inside itself. What is a wrapper class? 1+2+5+2
13. How is an Applet created? Describe the Applet life cycle. What are the requirements for creating an Applet? 3+3+4