20U151   (Pages: 2)   Name: ……….…………..

Reg. No……………………

FIRST SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2020
(Regular/Supplementary/Improvement)
CC18U SDC1 PP02 – PYTHON PROGRAMMING, BASIC ELECTRONICS, INTRODUCTION TO IOT
(Information Technology - Core Course)
(2018 Admission onwards)

Time: Three Hours   Maximum: 80 Marks

PART A
Answer *all* questions. Each question carries 1 mark.

1. A computer program that converts assembly language to machine language is _____.

2. A step by step procedure used to solve a problem is called _____.

3. Python provides the _____ function that accepts data or input from the keyboard.

4. A _____ represents a group of elements arranged in the form of key-value pairs.

5. Creating new classes from existing classes, so that new classes will acquire all the features of the existing classes is called _____.

6. _____ is the circuit most frequently used for full-wave rectification.

7. The 1's complement of $(10)_2$ is _____.

8. The first generation computers used _____ for circuitry.

9. _____ is a connectionless protocol.

10. In Python, modules can be imported using the _____ keyword.

(10 x 1 = 10 Marks)

PART B
Answer any *eight* questions. Each question carries 2 marks.

11. Define bridge rectifier.

12. What is meant by non-positional number system?

13. Write a short note on interrupt initiated I/O.

14. What is the role of things and Internet in IoT?

15. Define the applications of IoT in health and lifesytle.

16. Differentiate RAM and ROM.

17. Draw a flowchart to find the average of 10 numbers.

18. Explain variables and statements in Python.

19. Write the syntax for if…elif…else conditionals

20. Define __init__() function.

21. Define principle of duality.

22. Convert 11010011_2 to decimal.

(8 x 2 = 16 Marks)

PART C

Answer any *six* questions. Each question carries 4 marks.

23. Explain in detail the memory hierarchy design with neat diagram.

24. Write a python program to generate Fibonacci number series.

25. Explain BJT common-collector configuration and draw a circuit for determining common-collector characteristics.

26. Briefly explain the components of CPU.

27. Define datatypes in Python.

28. Explain different communication models in IoT.

29. Explain control statements in Python.

30. Find the decimal equivalent of the following numbers.

    (a) $(110.101)_2$ (b) $(127.54)_8$ (c) $(2B.C4)_{16}$

31. What is an exception? Write a Python program to handle the Zero Division Error exception.

(6 x 4 = 24 Marks)

PART D

Answer any *two* questions. Each question carries 15 marks.

32. (a) Write the algorithm and draw the flowchart to find the factorial of a number entered by the user.

    (b) What is an operating system? Describe in detail the main functions of operating system.

33. What are the importance of secondary storage devices? Explain the features of the following devices:

    (a) Hard disk   (b) Magnetic tape

34. Explain IoT protocols.

35. (a) What is a Dictionary? Explain different dictionary methods.

    (b) Write a Python Program to retrieve keys, values and key-value pairs from a dictionary.

(2 x 15 = 30 Marks)

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