BACHELOR OF TECHNOLOGY (C.B.C.S.) (2021-COURSE)
B. Tech. Sem - I COMPUTER :SUMMER- 2022
SUBJECT : COMPUTATIONAL THINKING & PROGRAMMING CONCEPTS

Day : Friday
Date : 22-07-2022

S-24009-2022

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data **WHEREVER** necessary.

Q.1 Discuss the formal problem definition with example. What are the challenges in problem solving? **(10)**

OR

Q.1 Write an algorithm to convert temperature from Fahrenheit to Celsius and vice-versa. Also draw flowchart and write pseudo-code for the same. **(10)**

Q.2 Define Venn diagram. Explain how it is used to solve problem. **(10)**

In my class all students are having good knowledge of at least one programming language. 23 are good at C, 19 are good at java, 9 are good at python, 15 are good at both C and Java, 5 are good at C# and C. represent following scenario using Venn diagram and answer the following question-

i) Total how many students are there in my class?
ii) Identify total number of students good at only C.

OR

Q.2 Enlist and explain various logical operators and their symbols in detail. **(10)**

Q.3 Define computational thinking. Enlist and explain the core concepts of computational thinking. **(10)**

OR

Q.3 Explain the concept of generalization. Make a hierarchy of 'Branches of Mathematics' to elaborate the concept of generalization. **(10)**

Q.4 Define sprite in scratch tool. What is the default sprite in scratch? Explain the various blocks in scratch tool. **(10)**

OR

Q.4 Explain the various control structure in C and python with examples. **(10)**

Q.5 What do you mean by Turing test? In what ways in passing the Turing test different from intelligence. **(10)**

OR

Q.5 What do you mean by benchmarks from the context of limits of computation? **(10)**

Q.6 Define entity and relationship. What are the roles of entities and relationships in effective modelling? Justify your answer with example. **(10)**

OR

Q.6 What do you mean by program state? Explain in detail the ways through which program state gets change. **(10)**

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