VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)
CHENNAI

Reg. Number:

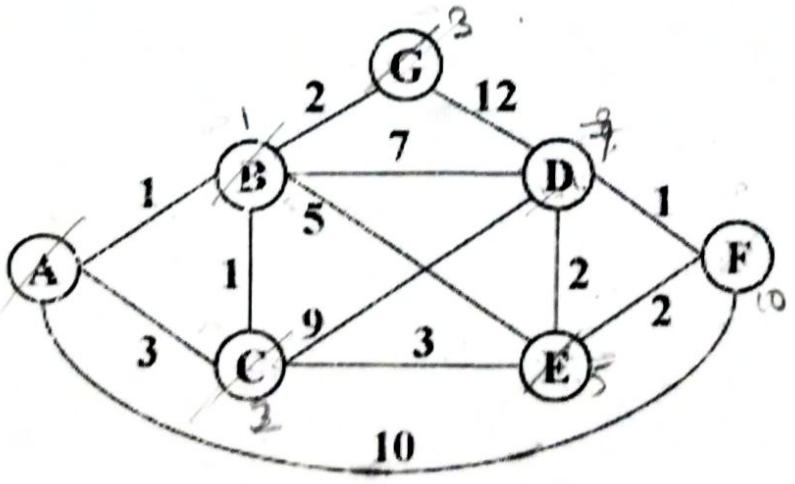
Continuous Assessment Test (CAT) – I - September 2024

Programme	:	B.Tech (ECE/EE/ECM/CPS/AI&ML//CSE/AIR)	Semester	:	FS 2024-25
Course Code & Course Title	:	Internet of Things	Class Number	:	CH2024250100456
Faculty	:	Tanmoy Majumder	Slot	:	D2+TD2
Duration	:	90 Minutes	Max. Mark		50

General Instructions:

- Write only your registration number on the question paper in the box provided and do not write other information.
- Only non-programmable calculator without storage is permitted

Answer all questions

Q. No	Sub Sec.	Description	Marks	Blooms Taxonomy Level
1		**Mr. John wants to install a low-power, IoT-based smart agricultural monitoring system on his farm, but it's almost 10 km from his house. What form of communication protocol will work best in these circumstances? Justify your response with appropriate context. Explain the modulation technique used in it.**	10	L2
2		**Based on knowledge of Dijkstra algorithm find out the shortest path between node A to all others node.** 	10	L3
3		**In a machine learning model, what are the "training Set" and "test Set"? How much data do you plan to set aside for validation, training, and test sets?**	5	L2
4		**Consider a smart IOT based agriculture and cattle farming application use to collect the cattle health, different health condition of plant and share the data with farmer to analyse and**	10	L3

		(i) Identify and list sensor name used. **(ii) Suggest suitable IOT architect and explain**		
5		**Dataset shown in given below contains examples of the different conditions that are associated with accidents. The target variable accident is a binary categorical variable with yes/no values. There are 4 categorical features: weather condition, road condition, traffic condition, and engine problem.** **Classify/predict the occurrence of an accident under the following conditions.** **Weather condition:** rain **Road condition:** good **Traffic condition:** normal **Engine problem:** no	**15**	**L3**

SNo.	Weather condition	Road condition	Traffic condition	Engine problem	Accident
1	Rain	bad	high	no	yes
2	snow	average	normal	yes	yes
3	clear	bad	light	no	no
4	clear	good	light	yes	yes
5	snow	good	normal	no	no
6	rain	average	light	no	no
7	rain	good	normal	no	no
8	snow	bad	high	no	yes
9	clear	good	high	yes	no
10	clear	bad	high	yes	yes

**********All the best **********