VIT

Reg. No. :

Final Assessment Test (FAT) - July/August 2023

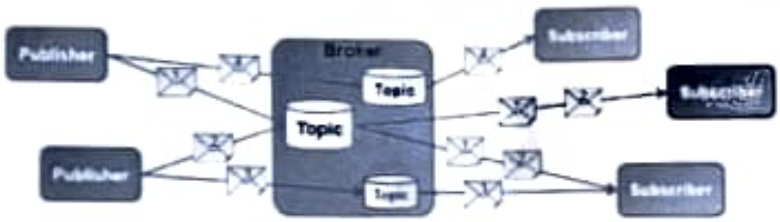
Programme	B.Tech.	Semester	Fall Inter Semester 22-23
Course Title	INTERNET OF THINGS	Course Code	BECE351E
Faculty Name	Prof. Om Prakash Sahu	Slot	TE1
		Class Nbr	CH2022232500321
Time	3 Hours	Max. Marks	100

Section A (6 X 15 Marks)
Answer all questions

01. "IoT plays a vital role in fleet management by helping the fleet managers to obtain real-time data regarding their current location and vehicle status .This helps them to respond quickly to emergency situations, thereby improving safety and efficiency " Discuss how does IoT influence business and environment in the above mentioned scenario? [15]

02. "Edge AI has considerable potential for building the smart manufacturing industry. One of the crucial components in Industry 4.0 is introducing intelligence "on the edge." Mounting intelligence on edge will allow machines in the production units to make higher-level decisions, act autonomously" Design an Industry automation system based on Edge ML Architecture using the above instance. [15]

03. "De-coupling of publisher and subscriber through topics is the role of MQTT broker"- [15]
i) Justify the statement with explanation and illustration in oil and gas industry.(8 Marks)
ii) Identify and explain the communication model associated with the protocol. (7 marks)



04. "The objective of smart home is to provide customized automation and remote surveillance. Smart home is open to vulnerable threats " Considering the above mentioned use-case: [15]
i) Discuss the various IoT Attacks and Security Challenges faced across each layers.(8 Marks)
ii) Suggest some mitigating factors that could counteract the issues.(7 Marks)

05. "The world is going crazy after games, users want real-time games to play with multiple players along with chat and call facilities so to achieve such facilities" [15]
i) Identify and analyse Communication API's being employed for the above scenario (8 Marks)
ii) Comment on the communication model which goes with it.(7 Marks)

06. Do a case study with necessary diagrams, on smart grid considering the various factors with respect to [15]
i) Data collection, load distribution and maintenance (10 Marks)
ii) Design requirements based on interoperability, heterogeneity and connectivity. (5 Marks)

Section B (1 X 10 Marks)
Answer all questions

07. Hospital information systems (HIS) are integrated in healthcare industry for effective management. Information systems belonging to the medical network are inherently heterogeneous with multiple coexisting systems within the same hospital (e.g., medicine stock software and medical appointment software). Pertaining to the above use case, explain the processes and functions involved using service oriented architecture. [10]

⇔⇔⇔