

[3 hrs]

[80 Marks]

- Note :** 1. Question 1 is compulsory.
 2. Answer any three out of remaining questions.
 3. Assume suitable data where required.

Q1 Solve any 4

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|--|---|
| a) What is the Internet of Behaviour (IoB) and why is it the future? | 5 |
| b) Compare and contrast IoT data analytics and IoT network analytics. | 5 |
| c) Briefly elaborate the Advanced Message Queuing Protocol(AMQP) | 5 |
| d) While designing the IoT based smoke detection system what all parameters need to be considered before choosing the required sensor. | 5 |
| e) Explain applications of Bluetooth Low Energy (BLE) | 5 |

Q2

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|--|----|
| a) Compare and contrast Edge, Fog, and Cloud Computing. Explain their usage with an example. | 10 |
| b) Consider smart farming system. Elaborate its working and list down the different types of sensors and actuators required during the deployment scenario | 10 |

Q3

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|---|----|
| a) Describe IoT World Forum (IoTWF) Standardized Architecture | 10 |
| b) Explain the architecture of LoRaWAN with its major Characteristics | 10 |

Q4

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|--|----|
| a) Explain ecosystem for IoT enabled Smart Home Automation with respect to sensors, actuators, framework, protocols, storage, data analysis, security etc. | 10 |
| b) State advantages of data visualisation. Give different tools used for it. | 10 |

Q5

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|---|----|
| a) Elaborate the Smart Object with diagram and describe all the essential components required to make the object into the smart object. | 10 |
| b) Explain the following access technologies with applications area of each
1) Zigbee 2)RFID 3)6LoWPAN 4) CoAP | 10 |

Q6

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|---|----|
| a) Draw and explain Architecture of MQTT with diagram | 10 |
| b) Elaborate the need of new network architecture in IoT. | 10 |
