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PRESIDENCY UNIVERSITY BENGALURU

SCHOOL OF INFORMATION SCIENCE

MAKE UP EXAMINATION JULY – 2024

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| **Semester : 3, 5, 6 & 7** | **Date :9/7/2024** |
| **Course Code :CSE3055** | **Time : 9:30 AM -12:30 PM** |
| **Course Name :WIRELESS COMMUNICATION IN IOT** | **Max Marks :100** |
| **Program :CIT, BTech** | **Weightage :50%** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Question paper consists of 3 parts.*
3. *Scientific and non-programmable calculator are permitted.*
4. *Do not write any information on the question paper other than Roll Number.*

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| **PART A** | | | |
| **ANSWER ANY 5 QUESTIONS 5Q X 2M=10M** | | | |
| 1 | Illustrate the key points in WSN? | (CO 1) | [Knowledge] |
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| 2 | Write a note on energy scavenging | (CO 1) | [Knowledge] |
|  | | | |
| 3 | Write four transceivers operational States | (CO 2) | [Comprehensive] |
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| 4 | What is DMS? | (CO 2) | [Comprehensive] |
|  | | | |
| 5 | Show the duty cycle concepts of MAC? | (CO 3) | [Application] |
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| 6 | Discuss MQTT Protocol with diagram. | (CO 3) | [Application] |
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| 7 | Define UART | (CO 4) | [Application] |
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| **PART B** | | | |
| **ANSWER ANY 5 QUESTIONS 5Q X 10M=50M** | | | |
| 8 | What are the basic components of a sensor node? Explain each component | (CO 1) | [Knowledge] |
|  | | | |
| 9 | Describe the Optimization Goals and Figures of Merit in detail | (CO 2) | [Comprehensive] |
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| 10 | How S-MAC protocol handle the major source of energy inefficiency in WSN | (CO 2) | [Comprehensive] |
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| 11 | Discuss the following   (a) Energy Problems on MAC (b) Gateway Concepts | (CO 3) | [Application] |
|  | | | |
| 12 | Explain briefly about the following: (a) Over-hearing (b) Idle-listening with suitable diagrams | (CO 3) | [Application] |
|  | | | |
| 13 | What are the wired external communication Interface explain each in detail | (CO 4) | [Application] |
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| 14 | Explain the following in detail. With suitable diagram   1. SPI, 2. I2C | (CO 4) | [Application] |
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| **PART C** | | | |
| **ANSWER ANY 2 QUESTIONS 2Q X 20M=40M** | | | |
| 14 | 1. Explain the following in detail. With suitable diagram 2. . CSMA Access Mode 3. CSMA Channel Concept 4. CSMA Advantages and Disadvantages | (CO 3) | [Application] |
|  | | | |
| 15 | Discuss in detail about Radio Frequency Identification (RFID ) with suitable diagrams | (CO 4) | [Application] |
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| 16 | Explain the IEEE 802.15.4 standard used for Wireless Personal Area Network and its correlation with Zig bee, With diagram | (CO 4) | [Application] |
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