**Duration: 3 Hours** **Total Marks assigned: 80**

N.B.: (1) Question No. 1 is compulsory.

(2) Attempt any three of remaining five questions.

(3) Assume any suitable data if necessary and clearly state it.

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|---|---|---|---|
| 1 | a. | Exemplify the exposed terminal problem. | 05 |
| | b. | Describe Wireless Mesh Networks in brief | 05 |
| | c. | Illustrate the need for power management in ad hoc network. | 05 |
| | d. | Brief the major classification of MAC protocol for ad hoc wireless network | 05 |
| 2 | a. | Discuss any one hierarchical routing protocol of AWN. | 10 |
| | b. | Describe the operation of Directional-MAC protocol in detail. | 10 |
| 3 | a. | Illustrate various steps involved in five phase reservation protocol (FPRP) with its frame format. | 10 |
| | b. | What is count to infinity problem? How DSDV protocol provides solution to address the problems of looping and count to infinity? Explain with an example. | 10 |
| 4 | a. | Illustrate the route discovery and route maintenance processes in On-demand QoS routing Protocols. | 10 |
| | b. | How does the link failure situation is handled in AODV protocol? Explain with an example | 10 |
| 5 | a. | Illustrate the Temporally Ordered Routing Algorithm (TORA) along with its advantages and limitations. | 10 |
| | b. | Briefly explain the state transition diagram for Adhoc TCP sender (ATCP). | 10 |
| 6 | | Write a short note on the following | 20 |
| | a. | Issues and challenges faced in providing QoS. | |
| | b. | Various security attacks in application layer | |
| | c. | 802.11g IEEE standard | |
| | d. | Security aware adhoc routing. | |

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