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

N.B.: 1. Question no. 1 is compulsory.
2. Solve any three questions out of remaining.
3. Make suitable assumptions whenever necessary.
4. Figures to the right indicates full marks

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|---|---|---|
| Q.1 [a] | Enlist the various issues of Ad-Hoc wireless network w.r.t. infrastructure network. | 05 |
| [b] | Exemplify the hidden terminal problem. | 05 |
| [c] | Why does standard TCP does not work well in Ad-Hoc wireless network. | 05 |
| [d] | What are the major challenges of a routing protocol in Ad-Hoc wireless network. | 05 |
| | | |
| Q.2 [a] | What are the design goals of a transport layer protocol for Ad hoc wireless Networks. | 10 |
| [b] | Illustrate the various Issues in designing a MAC protocol for Ad hoc wireless Networks. | 10 |
| | | |
| Q.3 [a] | What do you mean by Quality of service in Ad hoc wireless Networks, explain various issues and challenges in providing QoS in Ad hoc wireless Networks. | 10 |
| [b] | Describe any one scheduling protocol in detail. | 10 |
| | | |
| Q.4[a] | Illustrate DSDV routing protocol with its advantages and disadvantages. | 10 |
| [b] | Briefly explain the state transition diagram for Adhoc TCP sender (ATCP). | 10 |
| | | |
| Q.5[a] | Exemplify the hybrid routing protocol. | 10 |
| [b] | Briefly explain the network security requirements and give classification of security attacks on Ad hoc wireless Networks. | 10 |
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| Q.6 [a] | Write a short note on 802.11 g  IEEE standard. | 10 |
| [b] | Describe the operation of Directional MAC (DMAC). | 10 |

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