(3 Hours)   **[Total Marks : 80**

N.B. : (1) Question number 1 is compulsory.
        (2) **Attempt** any **three** questions out of the remaining five questions.
        (3) **Figures** to the right indicate **full** marks.
        (4) Assume suitable data whenever required and justify them.

1. a) State and explain the different design issues of MAC Protocol.   10
    b) Explain the Multi-channel MAC & Power control MAC protocol.   10

2. a) Explain IEEE 802.11s architecture mesh networks.   10
    b) Differentiate ad-hoc TCP and split TCP.   10

3. a) What are the effects of exposed terminal problem in wireless networks?   10
    b) What is meant by AODV and explain about AODV routing protocol?   10

4. a) Explain Ad-hoc transport layer issues.   10
    b) Write short note on different operational states of transceiver in WSN.   10

5. a) Explain how routing in ad-hoc and sensor network is more secure?   10
    b) Explain issues and challenges in providing QoS in ad-hoc wireless networks.   10

6. a) Explain QOS in WSN?   10
    b) Explain Hybrid TDMA/FDMA?   10