

E / Sem - VI
NFT / choice based

(3 Hours)

(Total Marks : 80)

- N.B. :** (1) Question No. 1 is **compulsory**.
(2) Attempt any **three** from remaining **five** questions.
(3) Assume suitable **data**, if **necessary**.

- Q.1 a. Explain in detail hidden terminal and exposed terminal problem with respect to WLAN. [05]
b. What is frequency reuse principle with neat diagram? Explain it with example. [05]
c. Assume a cellular system of 32 cells with cell radius of 1.6km, a total spectrum allocation that supports 336 traffic channels and a reuse pattern of 7. Calculate the total service area covered with this configuration, the number of channels per cell and total system capacity. Assume regular hexagonal topology. [05]
d. Explain piconet and scatternet w.r.t Bluetooth. [05]
- Q.2 a. Explain WEP protocol in detail with neat diagram. [10]
b. What is spread spectrum? Explain FHSS in detail. [10]
- Q.3 a. What is WLL? Explain in detail MMDS and LMDS working in WLL based technology [10]
b. Explain GPRS architecture in detail with neat diagram. [10]
- Q.4 a. What is Ad-hoc network? Discuss and compare MANET and VANET architecture. [10]
b. Explain wireless multiple access techniques with suitable diagrams. [10]
- Q.5 a. Explain the evolution of cellular systems highlighting 1G/2G/3G. [10]
b. Define threats and challenges in wireless communication. Explain different types of device security issues [10]
- Q.6 Write a short note on the following (solve any four) : [20]
a. Wi-Max
b. Zigbee architecture
c. Mobile IP
d. UMTS architecture
e. Wireless sensor networks architecture

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- N.B.: 1) Question No.1 is compulsory.
2) Answer any three out of remaining questions.
3) Assume suitable data if necessary.
4) Figures to the right indicate full marks.

1. a) Define search engine. What do you understand by crawling and indexing? (10)
b) What are the factors that affect SEO Plan? (10)
 2. a) Explain the features to make website searchable by search engines. (10)
b) Explain clickstream analysis. What metrics are used to define clickstream? (10)
 3. a) What are the elements of an audit to identify problems in an existing site? (10)
b) Define AJAX. Explain the methods used to send requests in AJAX. (10)
 4. a) Discuss the steps to create SEO plans prior to site development. (10)
b) What is CMS? Explain the features of Django framework. (10)
 5. a) Explain the relationship between WS-Coordination, WS-Atomic Transaction and WS-Business Activity. (10)
b) Explain the characteristics of REST full web services. (10)
 6. a) Define Web analytics 3.0. What are the components of semantic web? (10)
b) Explain Web Ontology Language (OWL). (10)
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