

**FACULTY OF INFORMATICS**

**B.E. 4/4 (IT) I – Semester (Suppl.) Examination, June / July 2015**

**Subject : Intellectual Property Rights (Elective – II)**

**Time : 3 hours**

**Max. Marks : 75**

**Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.**

**PART – A (25 Marks)**

- |   |   |
|---|---|
| 1 Define intellectual property.                               | 2 |
| 2 What is passing off in relation to a trade mark?            | 3 |
| 3 Define industrial design and list out its salient features. | 3 |
| 4 Define a trade mark and what marks cannot be registered.    | 3 |
| 5 Distinguish between TRIPS and TRIMS.                        | 3 |
| 6 What is meant by infringement of copyright?                 | 2 |
| 7 State obligations of patentee.                              | 2 |
| 8 Define traditional knowledge.                               | 2 |
| 9 What are the rights of copyright owners?                    | 2 |
| 10 What are the main functions of WTO?                        | 3 |

**PART – B (50 Marks)**

- 11 What is meant by industrial design? Explain the essential characteristics of a design for the purpose of registration.
- 12 Discuss the powers and functions of WIPO. Explain its role in protection of intellectual property rights.
- 13 Explain the purpose of protecting trademarks. What are the advantages of its registration.
- 14 Define licencing and compulsory licencing. Explain the major differences between them.
- 15 Discuss the procedure to register a trademark.
- 16 Explain :
  - a) Term of validity of copyright in design and term of validity of trademark.
  - b) Infringement of trademark.
- 17 Explain the role of international conventions of IPR.

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B.E. 4/4 (IT) I – Semester (Suppl.) Examination, June / July 2015

Subject : Wireless and Mobile Communications (Elective – II)

Time : 3 hours

Max. Marks : 75

**Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****PART – A (25 Marks)**

- |    |  |   |
|----|--|---|
| 1  | Write key specification of leading 2G technologies.                      | 2 |
| 2  | Define the terms traffic intensity and grade of service.                 | 3 |
| 3  | Differentiate between large scale and small scale propagation models.    | 3 |
| 4  | Define diffraction and fresnel zones.                                    | 2 |
| 5  | Define the terms absolute bandwidth and 3 dB bandwidth.                  | 3 |
| 6  | Write the significance of Pseudo-noise sequences.                        | 2 |
| 7  | Name the requirements for mobile IP. Does mobile IP fulfill all of them. | 3 |
| 8  | Define the terms Foreign Agent (FA) and mobile nodes.                    | 3 |
| 9  | Write salient features of GSM.   | 2 |
| 10 | Write features of CDMA digital cellular standard.                        | 2 |

**PART – B (50 Marks)**

- 11 a) Explain evolution of GPRS for 2.5 G GSM and IS136.  
b) Explain various strategies of Handoff and why they need to be prioritized.
- 12 Explain practical line budget design using path loss model.
- 13 a) Explain GMSK technique in detail and write an expression for  $P_e$ .  
b) Explain generation and detection of DPSK.
- 14 a) Explain snooping TCP. Write advantages and disadvantages in extending the function of a foreign agent with snooping TCP.  
b) Compare different types of transmission errors that can occur in wireless and wired networks. What additional role does mobility play?
- 15 a) Write differences between FDMA, TDMA and CDMA.  
b) Draw the architecture of GSM system and explain.
- 16 a) Write a brief description about wireless local loop.  
b) Explain partition lasers.
- 17 Write a short notes on any Two :
- Fixed telephone networks
  - Selective retransmission
  - SDMA

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B.E. 4/4 (IT) I – Semester (Suppl.) Examination, June / July 2015

Subject : Ad-hoc and Sensor Networks (Elective – II)

Time : 3 hours

Max. Marks : 75

**Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****PART – A (25 Marks)**

- |  |   |
|--|---|
| 1 List any 4 types of wireless technologies.   | 2 |
| 2 What is reflection in radio propagation?   | 2 |
| 3 Write any 3 functions of TORA.   | 3 |
| 4 Distinguish between proactive and on demand protocols.                                 | 3 |
| 5 Write any three design issues of transport layer protocol for adhoc wireless networks. | 3 |
| 6 What is associativity-based adhoc multicast routing?                                   | 2 |
| 7 What is Byzantine attack?  | 2 |
| 8 Distinguish between hard QoS and soft QoS approaches.                                  | 3 |
| 9 What are the main components of a wireless sensor network?                             | 3 |
| 10 What are the applications of wireless sensor networks?                                | 2 |

**PART – B (50 Marks)**

- |   |    |
|---|----|
| 11 Discuss about various spectrum allocation methods.                                   | 10 |
| 12 Explain the working of DSDV protocol. Also mention its advantages and disadvantages. | 10 |
| 13 Explain why TCP cannot perform well in adhoc wireless networks.                      | 10 |
| 14 Discuss about the intrusion detection techniques for mobile adhoc networks.          | 10 |
| 15 Explain about demand based and contention based MAC protocols for sensor networks.   | 10 |
| 16 Give the classification of security attacks in adhoc wireless networks.              | 10 |
| 17 Write a short note on :  |    |
| a) Differences between cellular and adhoc wireless networks                             | 5  |
| b) Sensor node technology   | 5  |

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B.E. 4/4 (IT) I – Semester (Suppl.) Examination, June / July 2015

Subject : Distributed Systems (Elective – II)

Time : 3 hours

Max. Marks : 75

**Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****PART – A (25 Marks)**

- |    |  |   |
|----|--|---|
| 1  | Define distributed systems. Why is middleware very important?                          | 3 |
| 2  | Describe precisely what is meant by a scalable system.                                 | 2 |
| 3  | What are the main applications of message-passing interface?                           | 2 |
| 4  | How are synchronous and asynchronous transmissions different for data streams?         | 3 |
| 5  | Distinguish between stateful and stateless servers.                                    | 2 |
| 6  | What is a “mount point”? How is mounting achieved in a name space?                     | 3 |
| 7  | What is the importance of interoperable object reference in CORBA systems.             | 2 |
| 8  | How is security addressed in Globe system?   | 3 |
| 9  | What is the importance of low-latency communication in distributed multimedia systems? | 2 |
| 10 | What is “Fair scheduling” in distributed multimedia systems?                           | 3 |

**PART – B (50 Marks)**

- |       |   |    |
|-------|---|----|
| 11 a) | Explain what is meant by transparency. Give examples of different types of transparency.                        | 5  |
| b)    | What is vertical distribution and horizontal distribution in design of multitiered client-server architectures? | 5  |
| 12 a) | Distinguish between persistent and transient communication.   | 5  |
| b)    | What is the role of message broker in message queuing systems?  | 5  |
| 13 a) | Explain how client-to-server binding can be done using a daemon and using a superserver.                        | 5  |
| b)    | Explain about iterative name resolution mechanism.  | 5  |
| 14    | Distinguish between CORBA, DCOM and GLOBE based on naming, synchronization and replication features.            | 10 |
| 15 a) | What are the typical characteristics of multimedia data?  | 4  |
| b)    | Explain how bandwidth reservation and statistical multiplexing are useful in admission control.                 | 6  |
| 16 a) | Explain about agent technology and use of agents in distributed systems.  | 5  |
| b)    | Explain the use of have based approaches in supporting mobile entities.   | 5  |
| 17    | Write short notes on :  |    |
| a)    | Client-to-server binding in DCE   | 5  |
| b)    | Real time scheduling for resource management in distributed multimedia systems.                                 | 5  |

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