



Enrollment No.....

Faculty of Engineering
End Sem (Odd) Examination Dec-2019
IT3EL05 Ad-Hoc Networks

Programme: B.Tech.

Branch/Specialisation: IT

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. Which of the following is the correct order of the communicating range of the three types of network? **1**
 (a) PAN WLAN BAN (b) WLAN BAN PAN
 (c) WLAN PAN BAN (d) BAN WLAN PAN
- ii. Dynamic network topologies in _____ **1**
 (a) MANET (b) SANET (c) VANET (d) None of these
- iii. Packet discard policy is implemented in _____ **1**
 (a) Physical layer (b) Data link layer
 (c) MAC layer (d) Network layer
- iv. Which multiple access technique is used by IEEE 802.11 standard for wireless LAN? **1**
 (a) CDMA (b) CSMA/CA (c) ALOHA (d) None of these
- v. A well –defined groups that are numerically large in size but small compared to the network as a whole are used in _____. **1**
 (a) Unicast routing (b) Multicast routing
 (c) Broadcast routing (d) None of these
- vi. _____ includes the capabilities to perform both route discovery and route maintenance. **1**
 (a) DSDV (b) DSR (c) AODV (d) None of these
- vii. Unauthorized users should not be able to modify any data without the owner's permission **1**
 (a) Non-repudiation (b) Data secrecy
 (c) Data integrity (d) None of these
- viii. The situation in which additional data or activity are generated that would normally not exist **1**
 (a) Modification (b) Fabrication
 (c) Non-repudiation (d) None of these

- ix. REDOX sensors are used for **1**
 (a) Humidity (b) Pressure
 (c) Water quality (d) None of these
- x. SANET is an example of _____ **1**
 (a) BAN (b) WSN (c) WMN (d) SAN
- Q.2 i. What is an ad hoc network? Why ad hoc networks are needed? **4**
 ii. Differentiate between Infra structured and Infra structure less networks with suitable diagram. **6**
- OR iii. Explain the application areas of ad hoc networks. **6**
- Q.3 i. Differentiate between MACA and MACAW. **4**
 ii. What is MAC protocol? Discuss the issues in designing the MAC protocol for ad hoc wireless networks. **6**
- OR iii. Discuss briefly about Bluetooth and HiperLAN. **6**
- Q.4 i. What is routing? Draw the structure of routing table with example. **4**
 ii. Explain the challenges and designing goals of routing protocols in ad hoc networks. **6**
- OR iii. How proactive routing protocol is different from reactive routing protocol. Explain one protocol of each. **6**
- Q.5 i. Differentiate between active and passive attack with example. **4**
 ii. Explain the issues of security in ad hoc wireless networks. **6**
- OR iii. What do you mean by network security attack? Explain various types of layer attacks. **6**
- Q.6 i. List out the requirements of a secure routing protocol for Ad-Hoc wireless networks. **4**
 ii. Explain the applications of sensor networks. **6**
- OR iii. Differentiate between ad hoc network and wireless sensor network with suitable diagram **6**

Marking Scheme
IT3EL05 Ad-Hoc Networks

Q.1	i.	Which of the following is the correct order of the communicating range of the three types of network? (c) WLAN PAN BAN	1
	ii.	Dynamic network topologies in _____ (a) MANET	1
	iii.	Packet discard policy is implemented in (d) Network layer	1
	iv.	Which multiple access technique is used by IEEE 802.11 standard for wireless LAN? (b) CSMA/CA	1
	v.	A well –defined groups that are numerically large in size but small compared to the network as a whole are used in _____. (b) Multicast routing	1
	vi.	_____ includes the capabilities to perform both route discovery and route maintenance. (b) DSR	1
	vii.	Unauthorized users should not be able to modify any data without the owner's permission (c) Data integrity	1
	viii.	The situation in which additional data or activity are generated that would normally not exist (b) Fabrication	1
	ix.	REDOX sensors are used for (c) Water quality	1
	x.	SANET is an example of _____ (b) WSN	1

Q.2	i.	Ad hoc network Need of Ad hoc networks	2 marks 2 marks	4
	ii.	Difference b/w Infra structured and Infra structure less networks Five differences 1 mark for each (1 mark * 5) Diagram	 5 marks 1 mark	6
OR	iii.	Application areas of ad hoc networks. 1.5 marks for each	 (1.5 marks *4)	6
Q.3	i.	Differentiate between MACA and MACAW. Four differences 1 mark for each	 (1 mark * 4)	4

	ii.	MAC protocol Issues in designing the MAC protocol	1 mark 5 marks	6
OR	iii.	Bluetooth HiperLAN.	3 marks 3 marks	6
Q.4	i.	Routing Structure of routing table with example	1 mark 3 marks	4
	ii.	Challenges Designing goals	3 marks 3 marks	6
OR	iii.	3 marks each protocol	(3 marks * 2)	6
Q.5	i.	Differentiate between active and passive attack Four differences 1 mark for each	 (1 mark * 4)	4
	ii.	Four issues of security in ad hoc wireless networks 1.5 marks for each	 (1.5 marks * 4)	6
OR	iii.	Definition of network security attack Any four types of layer attacks 1 mark for each attack (1 mark * 4)	2 marks 4 marks	6
Q.6	i.	Requirements of a secure routing protocol		4
	ii.	Four applications of sensor networks 1.5 marks for each	 (1.5 marks * 4)	6
OR	iii.	Difference b/w ad hoc network and wireless sensor network Five difference 1 mark for each (1 mark *5) Diagram	 5 marks 1 mark	6
