		St. Philomena's College (Autonomous), Mysore	
		PG Department of Computer Science	
		Question Bank (Revised Curriculum 2018 onwards)	
		Second Year- Third Semester (2019 -21 Batch)	
		Course Title (Paper Title): Wireless Networking(HC)	**QP Code:56201**
Unit	**Sl. No**	**Questions**	**Marks**
1	1	What is wireless Networking? Give examples.	2
1	2	What are the advantages of wireless networks over wired networks?	2
1	3	What are the disadvantages of wireless networks over wired networks?	2
1	4	What is Radio Access Technology? Give examples.	2
1	5	Define MAC and LLC layer.	2
1	6	What is the function of MAC sublayer?	2
1	7	Abbreviate PSTN, GSM, UMTS, LTE.	2
1	8	Define guard bands. Why do we use it?	2
1	9	Define Buffer and Burst method.	2
1	10	Give TDMA frame structure.	2
1	11	What is near-far problem? Give example.	2
1	12	How collision happens in communication?	2
1	13	Define round trip delay in telecommunication?	2
1	14	What is parity check?	2
1	15	Define detection delay and propagation delay.	2
1	16	Define Non persistent CSMA.	2
1	17	Define 1-persistent, p-persistent CSMA.	2
1	18	What is BTMA? Explain.	2
1	19	Differentiate between Pure ALOHA and slotted ALOHA.	2
1	20	What is handoff? Mention its types.	2
1	21	What is inter and intra system handoff?	2
1	22	What are station and access points in wireless networking?	2
1	23	How denial of service happens?	2
1	24	Why message integrity check is important?	2
2	25	Abbreviate UMTS, GSM, GPRS, CDPD.	2
2	26	What is BTS and MTSC? Mention its functionality	2
2	27	How communication is done in first generation cellular networks?	2
2	28	Mention services of GSM	2
2	29	What is call waiting and call forwarding?	2
2	30	Mention the subsystems of GSM architecture.	2
2	31	Mention the components of network switching subsystem.	2
2	32	What is SGSN and GGSN?	2
2	33	How 3G is different from 1G and 2G?	2
2	34	What is FDD and TDD?	2
2	35	Mention key features of CDMA 2000.	2

2	36	Mention different types of WLAN.	2
2	37	What is the functionality of PLCP and PMD in WLANs physical layer?	2
2	38	What is FHSS?	2
2	39	What is DSSS	2
2	40	What is Hiperlan? Mention its types.	2
3	41	What are Adhoc networks? Give example.	2
3	42	What are MANETs? Give example.	2
3	43	What is direct transmission and multihop transmission in MANETs?	2
3	44	Mention the characteristics of MANETs.	2
3	45	What is Table driven routing protocol in MANETs? Mention its types.	2
3	46	In wireless routing protocol what tables are maintained by each nodes?	2
3	47	What is source initiated on demand routing protocol?	2
3	48	How different is Table driven routing protocol and source initiated on demand routing protocol?	2
3	49	Mention different types of source initiated on demand routing protocol?	2
3	50	What is the difference between associativity based routing and signal stability based routing?	2
3	51	What are hybrid protocols? Give example.	2
3	52	What are wireless sensor networks? Give example.	2
3	53	What are the advantages of Wireless sensor networks?	2
3	54	What are proactive and reactive networks?	2
3	55	Define report time and attributes in proactive networks.	2
3	56	What are static and dynamic allocations in wireless sensor networks?	2
3	57	What is data fusion in wireless sensor networks?	2
4	58	What are WMANs? Give example.	2
4	59	What are ATM and Packet based protocol?	2
4	60	What is the functionality of MAC layer in WMAN?	2
4	61	What is the functionality of physical layer in WMAN?	2
4	62	What are WPAN? Give example.	2
4	63	Mention different WPAN standards.	2
4	64	How Bluetooth works?	2
4	65	What is piconets?	2
4	66	What are scatternets?	2
4	67	What is the functionality of SDP and L2CAP in Bluetooth?	2
4	68	How Bluetooth works in Active and sniff mode?	2
4	69	What is LMP in Bluetooth? Mention its functionality.	2
4	70	What are the advantages of Bluetooth technology?	5
1	71	Write a note on Wireless Medium Access Alternatives.	5

1	72	Write a note on fixed assignment for voice oriented networks.	5
1	73	Write a note on random access for data oriented networks.	5
1	74	What are the merits and demerits of FDMA?	5
1	75	What are the merits and demerits of pure ALOHA?	5
1	76	How wireless networking is better than wired networking? Explain.	5
1	77	Explain the role of MAC layer in wireless networking.	5
1	78	Write a note on wireless medium access alternatives.	5
1	79	Distinguish between FDMA, TDMA and CDMA.	5
1	80	Distinguish between Pure ALOHA and slotted ALOHA.	5
1	81	What is hidden node problem? Explain.	5
1	82	Write a note on Handoffs.	5
1	83	What are the main objectives of security in networking? Explain.	5
1	84	What are the cons and pros of WPA2? Explain.	5
2	85	Write a note on WWAN.	5
2	86	What are the security issues with 1G?	5
2	87	Write a note on WWAN.	5
2	88	Distinguish between 1G, 2G and 3G cellular networks.	5
2	89	Write a note on WWAN.	5
2	90	Write a note on 3G networks.	5
2	91	Distinguish between GSM and GPRS.	5
2	92	Write a note on 1G network.	5
2	93	Write a note on GPRS.	5
2	94	Write a note on IS-95.	5
2	95	Write a note on GSM.	5
2	96	Explain how TDMA method is used in 2G networks.	5
2	97	Write a note on GPRS support nodes.	5
2	98	Distinguish between 1G, 2G and 3G.	5
2	99	Explain the main elements of GPRS architecture.	5
2	100	How communication is done IS-95 network.	5
2	101	Write a note on 3G networks.	5
2	102	What are the advantages and disadvantages of CDMA 2000.	5
2	103	Explain the key features of WCDMA.	5
2	104	How 3G network is better than 1G and 2G? Explain.	5
2	105	Write a note on WLANs.	5
2	106	Write a note on IEEE 802.11 standards.	5
2	107	How differently infrastructure mode and Ad hoc mode works? Discuss.	5
2	108	Write a note on HIPERLAN.	5
2	109	Explain WLAN's physical layer architecture.	5
3	110	Write a note on Adhoc networks.	5
3	111	Explain characteristics of MANETs.	5

3	112	What is the importance of routing protocol in MANETs? Explain.	5
3	113	Write a note on Adhoc on demand distance vector routing.	5
3	114	Write a note on dynamic source routing.	5
3	115	Write a note on temporarily ordered routing algorithm.	5
3	116	Explain signal stability based routing algorithm.	5
3	117	Write a note on Wireless sensor networks.	5
3	118	Explain the characteristics of wireless sensor networks.	5
3	119	Explain dynamic and static channel allocation in wireless sensor networks.	5
3	120	Explain SPIN algorithm in wireless sensor networks.	5
4	121	Write a note on WMANs.	5
4	122	Write a note on WiMAX.	5
4	123	Write a note on WMANs MAC PDU formats.	5
4	124	What is the role of service specific convergence sublayer in WMAN?	5
4	125	Explain PHY support and frame structure of MAC layer in WMAN.	5
4	126	Explain Radio link control of MAC layer in WMAN.	5
4	127	Write a note on WPANs.	5
4	128	Explain different WPAN standards.	5
4	129	Write a note on Bluetooth.	5
4	130	Differentiate between WMAN and WPAN.	5
4	131	Distinguish between piconets and scatternets.	5
4	132	Explain different WPAN standards.	5
4	133	What is the functionality of Link Manager Protocol in Bluetooth.	5
4	134	Explain Bluetooth's different modes of operation.	5
4	135	Explain functionality of LMP in Bluetooth.	5
4	136	Explain functionality of L2CAP in Bluetooth.	5
4	137	Explain Bluetooth core protocols in detail.	7
1	138	Discuss slotted ALOHA method.	7
1	139	Distinguish between FDMA, TDMA and CDMA. (	7
1	140	Explain the concept of Packet reservation ALOHA.	7
1	141	Write a note on Carrier sense multiple access method.	7
1	142	Explain any two unauthorized access methods in details.	7
1	143	How security is provided in WEP? Discuss.	7
1	144	How handoff occurs? Explain in detail.	7
2	145	Discuss GSM services in detail.	7
2	146	Discuss the technology used in IS-95 network.	7
2	147	Discuss network switching sub system in GSM.	7
2	148	Explain CDMA 2000 technology in 3G networks.	7
2	149	What is Hiperlan? Discuss its components in detail.	7

2	150	Explain physical layer of WLAN in detail.	7
3	151	Briefly explain cluster head gateway switching routing in detail.	7
3	152	Explain signal stability based routing algorithm.	7
4	153	Explain the concept of frequency hopping in detail.	7
1	154	Explain the concept of FDMA in detail.	8
1	155	Explain the concept of pure ALOHA method in detail.	8
1	156	Write a note on various strategies of the CSMA.	8
1	157	Explain the concept of reservation ALOHA.	8
1	158	Why handoff is needed? Explain.	8
1	159	Explain any two handoff strategies in detail.	8
1	160	Distinguish between different security mechanisms of networking.	8
2	161	How TDMA method is used in 2G network? Explain in detail.	8
2	162	Explain GSM architecture's network switching subsystem in detail.	8
2	163	What are SGSN and GGSN? Explain its functionality in detail.	8
2	164	Explain WCDMA technology in 3G networks.	8
2	165	Discuss different types of WLANs.	8
2	166	Explain MAC layer of WLAN in detail.	8
3	167	Briefly explain DSDV routing protocol in detail.	8
3	168	Explain associativity based routing algorithm.	8
4	169	How Bluetooth packets are formed? Explain in detail.	8
1	170	Discuss the concept of TDMA in detail.	10
1	171	How Code Division multiple access works? Explain in detai.	10
2	172	Explain first generation of cellular networks in detail.	10
2	173	Explain CDMA 2000 technology in detail.	10
2	174	Explain WLANs Physical and MAC layer.	10
2	175	Explain different types of HIPERLAN.	10
3	176	How Relative Distance Micro discovery Ad Hoc Routing works? Explain in detail.	10
3	177	Explain how directed diffusion algorithm works?	10
1	178	Discuss Slotted ALOHA method and its types in detail.	15
1	179	Explain the concept of WEP in detail.	15
1	180	Explain the concept of WPA in detail.	15
1	181	Explain the concept of WPA2 in detail.	15
2	182	Explain GSM architecture in detail.	15
2	183	Explain GPRS architecture in detail.	15
2	184	Explain GPRS technology in detail.	15
2	185	With suitable diagram explain IEEE 802.11 architecture.	15
2	186	Explain MAC layer of WLAN in detail.	15
3	187	Explain table driven protocols in detail.	15

3	188	Explain wireless routing protocol in detail.	15
3	189	Explain DSDV routing protocol in detail.	15
3	190	Explain Cluster head gateway switching routing in detail.	15
3	191	Explain any two source initiated on demand routing protocol in detail.	15
3	192	Explain any three hybrid routing protocol.	15
3	193	Explain hierarchical routing in sensor networks in detail.	15
3	194	Explain COUGAR routing protocol in detail.	15
4	195	Explain WMANs physical layer in detail.	15
4	196	Explain WMANs MAC layer in detail.	15
4	197	Explain common part sublayer of MAC layer in WMAN.	15
4	198	Explain architecture of Bluetooth in detail.	15
4	199	Explain Bluetooth MAC layer details.	15
4	200	Explain Bluetooth physical layer details.	15

MODEL QUESTION PAPER

St. Philomena's College (Autonomous) Mysore
III Semester M.Sc -Final Examination November - 2019
Subject: COMPUTER SCIENCE
Title: WIRELESS NETWORKING (HC)

Time: 3 Hours   **Max Marks: 70**

PART –A

1.   **Answer any FIVE questions:**   5x2=10
   - a.   Define Wireless Networking and mention its advantages.
   - b.   What are the functions of MAC layer IEEE 802.11?
   - c.   List the features of WLAN.
   - d.   What are the goals of Hiperlan?
   - e.   What is WiMAX?
   - f.   Define MANETs.
   - g.   Define Wireless PAN.

PART –B

Answer one full questions from each module.:   4x15=60

Module - 1

2.   a.   Explain frequency division multiple access (FDMA) method.   08
   - b.   Explain Code Division Multiple Access (CDMA) method.   07

OR

3.   a.   Explain slotted ALOHA method in detail.   10
   - b.   Explain any two Handoff strategies.   05

Module - 2

4.   a.   Briefly explain WWAN technology   07
   - b.   Briefly explain Network Switching system.   08

OR

5.   a.   Briefly explain components of HIPERLAN.   05
   - b.   Briefly explain short message service in GSM.   05
   - c.   Write a note on GPRS and WiMAX.   05

Module - 3

6. a. Explain the characteristics of MANETS. 05

   b. Explain Table-Driven routing protocols in detail. 10

OR

7. a. Explain Hybrid protocols in detail. 10

   b. Briefly explain classification of sensor networks. 05

Module - 4

8. a. Explain WMAN's MAC layer in detail. 10

   b. Write a note on Bluetooth 05

OR

9. a. Write a note on WPANs 05

   b. Explain architecture of Bluetooth systems in detail. 10

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