

<b>Name:</b>	
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, May 2019**

<b>Programme Name: B.Tech(CSE+TI)</b>	<b>Semester : VI</b>
<b>Course Name : Wireless and Ad-hoc Network</b>	<b>Time : 03 hrs</b>
<b>Course Code : CSIB 342</b>	<b>Max. Marks : 100</b>
<b>Nos. of page(s) : 01</b>	
<b>Instructions: Attempt all the questions</b>	

**SECTION A**

S. No.	Question	Marks	CO
Q 1	Discuss the need of Ad-hoc and Wireless Network.	4	CO1
Q 2	Explain diagrammatic illustration of Reflection and Diffraction of radio waves during communication.	4	CO1
Q 3	A Carrier of 750 W, 1MHz is amplitude modulated by sinusoidal signal of 2 KHz to a depth of 50%. Calculate Bandwidth, Power in side band and total power transmitted.	4	CO2
Q 4	Differentiate HiperLAN1 and HiperLAN2.	4	CO2
Q 5	What is mobile IP?	4	CO3

**SECTION B**

Q 6	Describe Transmission Control Protocol in wireless network.	10	CO3
Q 7	What is WAP protocol stack?	10	CO5
Q 8	What are the various ways to improve Cellular capacity and coverage?	10	CO3
Q 9	Discuss in detail about Mobile ad-hoc Network. <b>OR</b> Briefly explain the following: a) Power management in ad-hoc and wireless network b) Radio resource management in ad-hoc and wireless network	10	CO4

**SECTION-C**

Q 10	a) How QoS in wireless and Ad-hoc networks can be ensured? b) Why efficient routing techniques are required in Ad-hoc network? Elaborate the advantages and disadvantages of Link state routing protocol.	6+14	CO5
Q 11	Discuss any two: a) Roaming in cellular networking b) GSM and TDMA system c) DSDV protocols d) IEEE802.11 standard	20	CO2, CO5

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**SECTION A**

S. No.	Question	Marks	CO
Q 1	What are the challenging issues of Ad-hoc networks?	4	CO1
Q 2	Illustrate Diffraction and Scattering of radio waves with example.	4	CO1
Q 3	A 400W, 1MHz carrier is amplitude-modulated with a sinusoidal signal of 2500Hz. The depth of modulation is 75%. Calculate the side band frequencies, bandwidth, and power in side bands and the total power in modulated wave.	4	CO2
Q 4	Explain different features of HiperLAN.	4	CO2
Q 5	Write a note on Ad-hoc Wireless Internet.	4	CO3

**SECTION B**

Q 6	How the working of Snoop TCP is different from I-TCP?	10	CO3
Q 7	Discuss in detail about Mobile management in ad-hoc and wireless network. <b>OR</b> Draw and explain the architecture of WAP	10	CO4
Q 8	Differentiate IEEE 802.11g And 802.11a standards.	10	CO5
Q 9	What are the various methods to improve the capacity of cellular system? Explain it.	10	CO3

**SECTION-C**

Q 10	a) What are the various design goals of Ad-hoc networks? b) Briefly explain the different routing solutions provided at network and MAC layer. Discuss location based routing with example.	6+14	CO2, CO5
Q 11	Discuss any two: a) Packet radio networking b) TDMA vs FDMA c) CSMA/CA d) DSDV	20	CO1, CO2, CO5