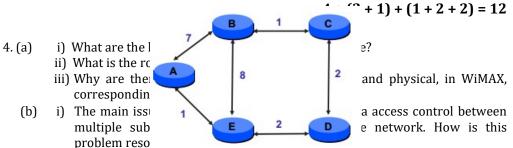
M.TECH/CSE/1ST SEM/CSEN 5132/2018 In spreaMsFECHI/CSE/11/0 SEM# 6SENp54132/2018 ssigned (v) (a) ADVANCED WIRESESSPAND VIOBILE NETWORKS
(b) same spectrum and different PN code
(c) different spectrum and different PN code Time Allotted different spectrum and same PN code. Full Marks: 70 In Mobile Assisted Handoff (MAHO), the handoff takes place when Figures out of the right margin indicate full marks, (a) the power received by the mobile station from other base station is (vi) Conditioner Group A and <u>any 5 (fiver from Group B to E, taking at least one</u> from each group. (c) the mobile station has no signal Candiddies af encoding to give answer in their own words as far as How many slaves can **practicable** to the master using SCO links in (vii) bluetooth? (a) 3 (b) 4 Group – A (c) 5 (viii) Match the left and right columns: Group – A (d) 7. 1. Choose 1. WLAN 1. 802.11 Choose the correct alternative for the following: 2. Bluetooth 2. 802.14 $10 \times 1 = 10$ bee 3. 802.15 ling is caused due to MAX 4.802.16 ulti path propagation (i) (b) 1-1, 2-3, 3-3, 4-4 (cf. 1-1, 2-3, 3-2, 4-2 3. frequency variations at the source The variations frequency in the source (d) 1-1, 2-3, 3-2, 4-4. The variations at the source frequency because the source of its (d) 1-1, 2-3, 3-2, 4-4. (ix) members and spreads it over the network to the foreign agentrist known as(c) (2) and (3) are correct (a) tunnelling (d) all are correct. (b) encapsulation (Adjacente cell interference between the dhengene of the abase stations is (ii) Which efithe following routing protocols are not used in MANETs? (x) (4) Das Bigning different gPSRp of channels (c) AODV (d)OSPF (b) using transmitters with different power levels (c) using different antennas Find (d) all of the above. 0.4 2. (a) (iii) steady of the statistic space squation of the folfalls weith square of the distance l 0.5 1 2 07 0.2 2. increases with square of the di d 0.0 0.3 receiver 0 3. increases with gains of transmitt 3 (a) 1 and 2 are correct (c) all the three are correct (iv) Which one of the following event is not possible in wireless LAN?
Explain, with suitable diagram the methods adopted to improve the capacity (a). Collision detection
(b) Acknowledgement of data frames of a cellular network.
(c) Multi-mode data transmission, (d) none of the mentioned.
What are the main problems of signal propagation? State the reason why radio (b) (c) waves do not follow straight line. Why is reflection both useful and harmful? 6 + 4 + 4 = 12

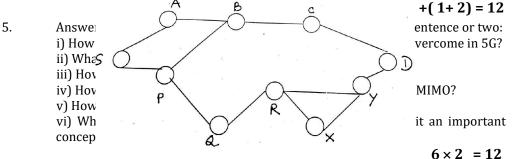
M.TECH/CSE/1st SEM/CSEN 5132/2018

- 3. (a) Draw the architecture diagram of a cellular system. Explain the functions of its various components, viz., BTS, MSC, BSC etc.
- (b) What is the basic difference between hard handoff and soft handoff? Give one example of each type.
- An operator has a bandwidth B MHz. Each frequency band is allocated f MHz. TDMA is used. N traffic channels can be assigned per carrier frequency. You may assume a given K factor.
 - i) How many traffic channels can be assigned per MHz of carrier?
 - ii) How many traffic channels can be assigned if there is no cell splitting?
 - iii) How many traffic channels can be assigned for M number of cells?



ii) What are the two modes of downstream transmission?

- iii) Mention three types of MAC headers.
- (c) i) What are the three main groups of bearer services in WiMAX grouped according to functional requirements? [Hint: Circuit-based etc.]
 - ii) Distinguish between QoS requirements for these three groups of services.



Group – D

6. (a) Compare and contrast I-TCP, M-TCP and A-TCP.

- (b) i) Consider that you are a resident of Kolkata and have a mobile IP- enabled mobile phone. Now, you have been posted in New Delhi for some short term training of a week and it is expected that for that short period you will not take a new SIM. What are the procedures that are to be executed by the network from the mobile IP perspective?
 - ii) How does the network handle a call destined to you, initiated by your friend located at Bangalore? 6 + 6 = 12

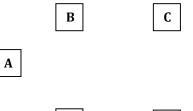
M.TECH/CSE/1st SEM/CSEN 5132/2018

- 7. (a) How does the CSMA/CA protocol work? In particular, show the working of this protocol with respect to various inter frame spacing times.
- (b) i) What is cognitive radio network (CRN)?
 - ii) Explain with an example how dynamic spectrum access is achieved in CRN?

(2+4) + (2+4) = 12

Group – E

Consider a network as given in the figure. Explain how the distance vector routing algorithm will exchange information of the nodes to update the routing table in each of the nodes till they reach a stable state.



D

(b) Explain the count to infinity problem with suitable example.

Е

8 + 4 = 12

9. (a) Draw and explain the connection establishment process of bluetooth using suitable state diagram.

(b)

8. (a)

Consider the above network. S wants to send traffic to D for the first time. Show the reverse path and forward path setup if AODV protocol is used. You may assume the link cost between any two nodes is a fixed value (say 1). 6 + 6 = 12



3