B.E./B.TECH. DEGREE EXAMINATION, DECEMBER 2020
Fifth Semester
IT18502 – MOBILE COMPUTING
(Regulation 2018)

Time: Three hours   Maximum : 80 Marks
Answer **ALL** questions
PART A - (8 X 2 = 16 marks)

1.   i) Which manager in Palm OS ensures the system enters into sleep mode?
         a) Attention Manager   b) Feature Manager   c) Resource Manager d) Event Manager
      ii) Pilot main function is an_____loop
         a) Even   b) odd   c) event   d) none of these

2.   i) _____Spreading method employs a carrier that is swept over a range of frequencies.
         a) chip spread spectrum(SS)   b) chirp SS   c) chep SS   d) cherp SS
      ii) _____standard enhances the 802.11 MAC to enhance the security and authentication
      schemes.
         a) IEEE 802.11a   b) IEEE 802.11b   c) IEEE 802.11f   d) IEEE802.11i

3.   i) _____ generates DTMF signal when telephone keys are pressed.
         a) Middleware   b) Gateway   c) Router   d) None of the above
      ii) _____transaction is preferred for SMS.
         a) Long session   b) short session   c) Medium session d) very short session

4.   i) Transport bearer for a mobile(Basic) or fixed phone is _____
         a) Voice   b) Data   c) http   d) SMS
      ii) Transport bearers for dialup connection are _____
         a) http   b) TCP/IP   c) UDP   d) ICMP
             i)   a only   ii) both a & b   iii) both a & c   iv) b only

5.   Why time advancing technique is required in cellular communication?
6.   When the connection less service is required in a wireless environment? Mention few
      applications of it.
7.   Compare FHSS and DSSS.
8.   State two similarities and dissimilarities of Windows CE and Windows NT.

PART B - (4 X16 = 64 marks)

09.   (a)   (i)   You have been asked to develop a navigational system for a bus, what type   **(6)**
                   of context information will be necessary?
            (ii)   You have been asked to provide the web services to the customers namely   **(10)**
                   Mr. X, Mr. Y and Mr. Z to access a personal information management
                   server (PIM). They are using telephone, mobile phone and PC to access
                   PIM server. What are the intermediate devices required to connect with
                   PIM? Draw and explain the architecture.

(OR)

      (b)   (i)   Design and develop the architecture of a gas booking system through   **(8)**
                   telephone/mobile.
            (ii)   Design and develop the architecture of e-ticket booking system through   **(8)**
                   Voice XML.

10. (a) (i) A subscriber is calling a GSM directory number +919444555666. Depicts **(10)** the steps for call processing.

      (ii) Compare GPRS, GSM and CDMA. **(6)**

(OR)

  (b) (i) Compare 3G, 4G and 5G. **(6)**

      (ii) Mr. ABC planned to arrange an official meeting through Google meet link. **(10)** So he has shared a Google meet link at 5 AM through his smart phone when he was in Chennai. Later he has reached Hyderabad through flight at 11 AM for some other official work. Many colleagues have sent confirmation mails when he was in Chennai. Few of his colleagues sent the confirmation mail while he was traveling. How the IP datagram will be forwarded when he was in Chennai and Hyderabad? Explain with a neat diagram.

11. (a) (i) Compare Wi-Fi and Wi-Max **(4)**

      (ii) Why CSMA/CD is not applicable to Wireless LAN? Provide the remedial **(12)** solution for it.

(OR)

  (b) (i) When does a telecommunication network become intelligent? Explain with **(8)** an example.

      (ii) Give an example for WTAI. Compare push and pull technology. **(8)**

12. (a) Assume you are working as a software developer in a big organization. Further, **(16)** you are requested to develop a protocol/standard to carry data, audio, video and movie over an IP network in real time. Design a suitable architecture and explain its call routing process.

(OR)

  (b) Assume you are working as a software security professional in a big **(16)** organization. Further, you are requested to analyze the various security techniques and algorithms with it benefits and drawbacks. How will you prepare a document w.r.t above criteria?