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| **Scheme of Valuation/Answer Key**  (Scheme of evaluation (marks in brackets) and answers of problems/key) | | | | | |
| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  SIXTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018 | | | | | |
| **Course Code: CS364** | | | | | |
| **Course Name: MOBILE COMPUTING** | | | | | |
| Max. Marks: 100 | | |  | Duration: 3 Hours | |
| **PART A** | | | | | |
|  |  | ***Answer all questions, each carries3 marks.*** | | | Marks |
| 1 |  | Functions of middleware (1.5 Marks)  Functions of gateways (1.5 Marks) | | | (3) |
| 2 |  | Need of multiple access technologies .Explanation 3 Marks | | | (3) |
| 3 |  | ISM band; 2Mark  Free band; 1Mark | | | (3) |
| 4 |  | 2G ;1.5 Marks  3G;1.5 Marks | | | (3) |
| **PART B** | | | | | |
| ***Answer any two full questions, each carries9 marks.*** | | | | | |
| 5 | a) | Any five mobility ;1 Mark each | | | (5) |
|  | b) | Nomadic mobile computing; 2marks  Pervasive mobile computing; 2 marks | | | (4) |
| 6 | a) | DSSS ;2.5 Marks  FHSS; 2.5 Marks | | | (5) |
|  | b) | Frequency Re-use concept explanation ;2 Marks  Figure ;2 marks | | | (4) |
| 7 |  | architectural components of GSM diagram; 3 marks  GSM Explanation; 3 Marks  Services of GSM technology ; 3 Marks | | | (9) |
| **PART C** | | | | | |
| ***Answer all questions, each carries3 marks.*** | | | | | |
| 8 |  | Features of 802.11a, 802.11b, 802.11n WLAN standards; 1 Mark each | | | (3) |
| 9 |  | Adhoc network ;explanation + figure 1.5 Marks  Infrastructure network; explanation + figure 1.5 Marks | | | (3) |
| 10 |  | Any three requirements of Mobile IP; 1 mark each | | | (3) |
| 11 |  | Soft handoff ; 1.5 Marks  Hard handoff ; 1.5 Marks | | | (3) |
| **PART D** | | | | | |
| ***Answer any two full questions, each carries9 marks.*** | | | | | |
| 12 | a) | Architecture of IEEE 802.11 ;  Diagram; 2.5 Marks ;  Explanation; 2.5 Marks | | | (5) |
|  | b) | MAC frame format of IEEE 802.11  Diagram 2 Marks;  Explanation 2 Marks | | | (4) |
| 13 | a) | Working procedure of DSR ;  Explanation 2.5 Marks  Example; 2.5 Marks | | | (5) |
|  | b) | DHCP  Diagram; 2 marks  Explanation;2 marks | | | (4) |
| 14 |  | Wireless Application Protocol(WAP)  Diagram; 4 Marks  Explanation; 5 Marks | | | (9) |
| **PART E** | | | | | |
| ***Answer any four full questions, each carries10 marks.*** | | | | | |
| 15 |  | mobile transport layer protocols  Indirect TCP ; Explanation + diagram 3 marks  Snooping TCP ; Explanation + diagram 3 marks  Mobile TCP ; Explanation + diagram 4 marks | | | (10) |
| 16 |  | Bluetooth technology.  working procedure; explanation with diagram 5 Marks  protocol stack architecture; explanation with diagram 5 Marks | | | (10) |
| 17 |  | mobile application languages  (i)XML ; explanation ;4 Marks  (ii) J2ME; explanation ;3 Marks  (iii)JavaCard; explanation ;3 Marks | | | (10) |
| 18 |  | Network architecture of LTE- Diagram + explanation ;5 Marks  interfaces of next generation network- LTE; Diagram+ explanation ;5 Marks | | | (10) |
| 19 |  | Any five security issues in mobile computing; 2 Marks each | | | (10) |
| 20 |  | Design an adhoc network for forest fire detection scenario  (i)Write the requirements of proposed network ; 2 Marks  (ii)Propose suitable routing protocol and justify reason for selection ; 4 Marks  (iii) Propose method for early prediction of forest fire; 4 Marks | | | (10) |