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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; 2MarkFree band; 1Mark | (3) |
| 4 |  | 2G ;1.5 Marks3G;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 MarksFHSS; 2.5 Marks  | (5) |
|  | b) | Frequency Re-use concept explanation ;2 MarksFigure ;2 marks | (4) |
| 7 |  | architectural components of GSM diagram; 3 marksGSM Explanation; 3 MarksServices 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 MarksInfrastructure network; explanation + figure 1.5 Marks | (3) |
| 10 |  | Any three requirements of Mobile IP; 1 mark each | (3) |
| 11 |  | Soft handoff ; 1.5 MarksHard 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 MarksExample; 2.5 Marks | (5) |
|  | b) | DHCP Diagram; 2 marksExplanation;2 marks | (4) |
| 14 |  | Wireless Application Protocol(WAP)Diagram; 4 MarksExplanation; 5 Marks | (9) |
| **PART E** |
| ***Answer any four full questions, each carries10 marks.*** |
| 15 |  | mobile transport layer protocolsIndirect 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 Marksprotocol 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 Marksinterfaces 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) |