|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Scheme of Valuation/Answer Key** | | | | | |
| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  V SEMESTER B.TECH (S) DEGREE EXAMINATION, MAY 2019 | | | | | |
| **Course Code: CE309** | | | | | |
| **Course Name: WATER RESOURCES ENGINEERING** | | | | | |
| Max. Marks: 100 | | |  | Duration: 3 Hours | |
|  | | | | | |
| **PART A** | | | | | |
|  |  | ***Answer any two full questions, each carries 15 marks.*** | | | Marks |
| 1 | a) | Sketch -2 marks  Explanation -4 marks | | | (6) |
|  | b) | Equation -1 mark  sketch -1 mark  Areas -1 mark  answer -13.25 cm ( 2marks) | | | (5) |
|  | c) | Total rainfall – 55.7 cm/hr (1 mark)  Rainfall excess - 6.7 cm /hr ( 1.5 mark)  W – index - 4.9 cm /hr (1.5 mark) | | | (4) |
| 2 | a) | Ordinates of 8 hr hydrograph  **0,7.5, 22.5, 27.5, 23, 19, 10.5, 6 ,4,0** ( 4 marks )  Sketch – 2 marks | | | (6) |
|  | b) | Equation -2 marks  Answer – 8.06 cm /hr ( 3 marks) | | | (5) |
|  | c) | Any 4 assumptions – 1 mark each | | | (4) |
| 3 | a) | Definition – 1 mark  Any 5 factors -1 mark each | | | (6) |
|  | b) | Std deviation – 11.05 ( 3 marks)  Coefficient of variation of rainfall – 21.75 ( 1 mark)  No. of rain gauge stations -5 ( 1 mark) | | | (5) |
|  | c) | 4 types of precipitation - 1mark each | | | (4) |
|  |  |  | | |  |
| **PART B** | | | | | |
| ***Answer any two full questions, each carries 15 marks.*** | | | | | |
| 4 | a) | Any 6 factors – 1 mark each | | | (6) |
|  | b) | GCA -2 marks  CCA -2 marks  UCA -1 mark | | | (5) |
|  | c) | Any 4 features - 1 mark each | | | (4) |
| 5 | a) | Explanation -1.5 marks  Three Classification – 1.5 marks each | | | (6) |
|  | b) | Water conveyance efficiency – 66.6% (1 mark for equation , 1 mark for answer)  Water application efficiency – 83.3 % ( 1 mark for equation , 2 marks for answer) | | | (5) |
|  | c) | Definition – 2 marks  Any 2 methods - 1 mark each | | | (4) |
| 6 | a) | Explanation -2 marks  Any 3 factors – 2 marks each | | | (6) |
|  | b) | Explanation with sketch – 3 marks +2 marks | | | (5) |
|  | c) | Field capacity – 2 marks  Permanent wilting point – 2 marks | | | (4) |
|  |  |  | | |  |
| **PART C** | | | | | |
| ***Answer any two full questions, each carries 20 marks.*** | | | | | |
| 7 | a) | Any 4 types – 2 marks each | | | (8) |
|  | b) | Any 6 factors –1 mark each | | | (6) |
|  | c) | Equation -1 mark  Sketch – 1 mark  Transmissibility – 0.018 m2/s ( 2 marks)  Drawdown in well – 4.22 m (2 marks) | | | (6) |
| 8 | a) | Explanation – 6 marks  Sketch -2 marks | | | (8) |
|  | b) | Any 6 methods - 1 mark each | | | (6) |
|  | c) | Definition – 1 mark  Sketch – 1 mark  Derivation – 4 marks | | | (6) |
| 9 | a) | Explanation of the test – 4 marks  Derivation of equation – 4 marks | | | (8) |
|  | b) | Explanation -6 marks | | | (6) |
|  | c) | Firm yield – 2 marks  Secondary yield - 2 marks  Average yield – 2 marks | | | (6) |
| \*\*\*\* | | | | | |