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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****FOURTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2019** |
| **Course Code: MA204** |
| **Course Name: PROBABILITY, RANDOM PROCESSES AND NUMERICAL METHODS (AE, EC)** |
| Max. Marks: 100 |  | Duration: 3 Hours |
| ***Normal distribution table is allowed in the examination hall.*** |
| **PART A**  |
| ***Answer any two questions*** |
| 1 | a) |  ........(1) ........(1) .........  | (7) |
|  | b) |  , (1)  .........(1+1)Number of packets with atleast two defectives = 264 ....(1) .....(1)Number of packets with 2 defectives = 184 ...(1).......(1)Number of packets with atmost two defectives = 920 .....(1)  | (8) |
| 2 | a) | .........(3)(i) P(X.........(2)(ii) ......(2) | (7) |
|  | b) |  .......(1) .......(1) .........(1+1) .......(1+1) .....(1+1) | (8) |
| 3 | a) | Mean = .......(1) .....(1) ........(1)Table (4)

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|  |  | 0.1866 | 0.3110 | 0.2764 | 0.1382 | 0.0369 | 0.0041 |
|  |  |  |  |  |  |  |  |

 | (7) |
|  | b) |  .......(1+2) .......(1+ 2)Solving ........(1+1) | (8) |
| **PART B**  |
| ***Answer any two questions*** |
| 4 | a) |  .......(2) ......(1) OR ........(2) .....(1+1) | (7) |
|  | b) |  ........(1) ......(1) .....(1+1)..........(1+1)..........(1)are dependent ........(1)  | (8) |
| 5 | a) | , constant ..............(2)..................(2) ..........(1), function of time difference.......(2) | (7) |
|  | b) |  ..........(2)........(1+2)Substitution ................... (1) = ................(2) | (8) |
| 6 | a) |

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..............................(1+1+1)If a student has not attended question 6 (a) bust has attended (6)b and found correct, then give 15 marks to 6(b) | 7 |
|  | b) |  .......(2) or (2+2)........(2) or (5)..........(2+2) or (3+3) | 8 or (15) |
| **PART C**  |
| ***Answer any two questions*** |
| 7 | a) | For (iii) and (iv) we have to use initial probability which is given wrong.  **OR**If a student use the initial probability given in the question to solve (iii) and (iv) marks as directed below:P{ = ........(3) | (10) |
|  | b) |  ........(1) ........(1).......(1) ...........(2) | (5) |
|  | c) | ........(1) ........................(2).........(2) | (5) |
| 8 | a) |

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Table values ......(3)............(2) .....(2) | (7) |
|  | b) | ..............(1)(2)32.913........ (2) | (7) |
|  | c) | .1 .....(1)  ........(1).......(1)......(1)..........(1)......................(1) | (6) |
| 9 | a) | .............(3) (i) .........(1+1)(ii) ..........(1+1+1)(iii) .......(1)P(buying B in the long run) = .............(1) | (10) |
|  | b) | ...........(2), substitution ......(2) .....(1) | (5) |
|  | c) | , root lies between 3 and 4 ..........(1) .......(1)........(3) | (5) |

**\*\*\* For any alternate method (if method is not specified) and if the answer is correct, give full marks.**