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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**V SEMESTER B.TECH (S) EXAMINATION, DECEMBER 2018MAY 2019 |
| **Course Code: AE305** |
| **Course Name: MICROPROCESSORS & MICROCONTROLLERS** |
| Max. Marks: 100 |  | Duration: 3 Hours |
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| **PART A**  |
|  |  | ***Answer any two full questions, each carries 15 marks.*** | Marks |
| 1 | a) | Diagram 4 marks, explanation 3marks | (7 ) |
|  | b) | Procedure explanation 1mark, 4 differences – 1 marks each | (5) |
|  | c) | Interrupt definition- 1 marks, ISR execution- 2 marks |  (3) |
| 2 | a) | Assembly process flow chart - 4 marksEditor,assembler,linker,loader,debugger-4 marks | (8) |
|  | b) | Each instruction 1 mark | (4) |
|  | c) | Listing of flag bits and its use |  (3) |
| 3 | a) | Diagram 3, Explanation 4 | (7) |
|  | b) | Assembler directive explanation – 1 markEach assembler directive- 1 mark (total-4 marks) | (5) |
|  | c) | Stack operation – 1 markExample -2 marks | (3) |
| **PART B**  |
| ***Answer any two full questions, each carries 15 marks.*** |
| 4 | a) | Architecture – 4 marksVarious blocks explanation- 4 marks | (8 ) |
|  | b) | Explanation 3 marks | (3) |
|  | c) | Circuit with signal names 4marks | (4) |
| 5 | a) | Interfacing circuit- 3 marksProcedure- 4marks |  (7) |
|  | b) | Descriptor format -3 marksExplanation-2 marks |  (5) |
|  | c) | Pentium special features – 3 marks  |  (3) |
| 6 | a) | Branch prediction 4marks, explanation with example 4marks |  (8) |
|  | b) | Architecture 4marks | (5) |
|  | c) | Functions of signals 1mark each | (2) |
| **PART C**  |
| ***Answer any two full questions, each carries20 marks.*** |
| 7 | a) | Different addressing modes 2marks, 2 examples in each mode with explanation 8marks | (10) |
|  | b) | 3 differences 1 mark each (1x3=3) | (3) |
|  | c) | Program – 7 marks, partial credit may be given for correct logic/algorithm  | ( 7) |
| 8 | a) | 1 mark each 1x3 |  (3) |
|  | b) | PSW Format- 2 marksExplanation -3 marks |  (5) |
|  | c) | Circuit- 4 marksProgram - 8 marks |  (12) |
| 9 | a) | Any 10 registers -1 Mark each |  (10) |
|  | b) | Interfacing circuit-3 marks |  (3) |
|  | c) | Program 7 marks, partial credit may be given for correct logic/algorithm |  (7) |
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