

 **Pages**

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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**  FIFTH SEMESTER B.TECH DEGREE EXAMINATION(S), JULY 2019 | | | | | | |
| **Course Code: ME369** | | | | | | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  |  |  |  | | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | | |  | | --- | | **Course Name: TRIBOLOGY** | | | | | | | | | | | |
| Max. Marks: 100 | | |  | Duration: 3 Hours | | |
| **PART A** | | | | | | |
|  |  | ***Answer any three full questions, each carries 10 marks.*** | | | Marks | |
| 1 | a) | Potential savings | | | ( 3) | |
|  | b) | Definition 1 assumptions 5 | | | (1+5 ) | |
| 2 | a) | Figure 2 explanation 3 | | | ( 2+3) | |
|  | b) | Slideways in machine tool industry  Draw dies in wire drawing  Cams and followers  Gears  Dry or boundary- lubricated journal bearings  Piston rings / cylinder liners  Any three - 3 | | |  | |
|  | c) | 2 companies – 2 marks | | |  | |
| 3 | a) | 3 ways – 3 marks | | |  | |
|  | b) | Figure 2 , explanation 4 | | |  | |
|  | c) | Any two - 2 | | |  | |
| 4 | a) | Any six – 6 marks | | |  | |
|  | b) | 2 types 2 marks | | |  | |
|  | c) | 2 causes – 2 marks | | |  | |
| **PART B** | | | | | | |
| ***Answer any three full questions, each carries 10 marks.*** | | | | | | |
| 5 | a) | 4 occurance – 4 marks | | | | ( ) |
|  | b) | Figure 1 , 3 regimes 3marks | | | | ( ) |
|  | c) | Any two Assumptions 2 | | | | ( ) |
| 6 | a) | Scuffing 1, galling -1 , seizure 1 | | | |  |
|  | b) | Abrasive model 5 marks | | | |  |
|  | c) | Definitions for both (1+1) | | | |  |
| 7 | a) | Explanation 4 | | | |  |
|  | b) | Any four considerations 4 | | | |  |
|  | c) | Definition 1 gragh 1 | | | |  |
| 8 | a) | 4 additives – 4 marks | | | |  |
|  | b) | Figure 2 explanation 4 | | | |  |
| **PART C** | | | | | | |
| ***Answer any four full questions, each carries 10 marks.*** | | | | | | |
| 9 | a) | Explanation 4 | | | | ( ) |
|  | b) | Explanation 2 | | | | ( ) |
|  | c) | Any four materials 4 | | | | ( ) |
| 10 | a) | Any four applications 4 | | | | ( ) |
|  | b) | Figure 2  Explanation 2 | | | |  |
|  | c) | Definition 2 | | | |  |
| 11 | a) | Adhesion index 2 | | | |  |
|  | b) | Four interactions – 4 marks | | | |  |
|  | c) | Figure 2 , explanation 2 | | | |  |
| 12 | a) | Four properties 4 marks | | | |  |
|  | b) | Figure 2 explanation 4 | | | |  |
| 13 | a) | Explanation 4 | | | |  |
|  | b) | Six methods – six marks | | | |  |
| 14 | a) | 4 properties - 4 marks | | | |  |
|  | b) | 4 characteristics 2 marks | | | |  |
|  | c) | 4 methods 4 marks | | | |  |
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