**14OE706/ME01**

**Hall Ticket Number:**

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| **IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **Jan / Feb, 2021** | **Common to CE & ECE** | | |
| **Seventh Semester** | **Automobile Engineering** | | |
| **Time:** Three Hours | | **Maximum:**60 Marks | |
| *Answer ALL Questions from PART-A.* | | | (1X12 = 12 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X12=48 Marks) |
| **Part - A** | | | |

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| --- | --- | --- | --- | --- |
| 1 | Answer all questions | | (1X12=12 Marks) | |
|  | a) | What are the different types of combustion chambers of Petrol engines | |  |
|  | b) | Classify the IC engine with respect to number of strokes. | |  |
|  | c) | What is the purpose of Muffler? | |  |
|  | d) | What is the function of a starting motor? | |  |
|  | e) | What is the purpose of lubrication in engine? | |  |
|  | f) | Explain the purpose of cooling in an engine. | |  |
|  | g) | Explain about the chassis. | |  |
|  | h) | List the differences between wet and dry clutch? | |  |
|  | i) | Enlist any four types of gear boxes. | |  |
|  | j) | What is the need of the suspension system? | |  |
|  | k) | Distinguish between Toe-in and Toe-out. | |  |
|  | l) | What are the requirements of a brake fluid? | |  |
| **Part - B** | | | | |  | Name any two types of steering mechanisms. |
| 2 | a) | Classify automobile vehicles. | | 6M |
|  | b) | What are the functions of piston rings? Explain different types of piston rings with neat sketches. | | 6M |
|  | | | | |
| 3 | a) | What is Supercharging, Explain with neat sketch about anyone of the supercharger. | | 6M |
|  | b) | With neat sketches, explain the working of the electrical fuel pump. | | 6M |
|  | | | | |
| 4 | a) | With a neat sketch explain the Air cooling system and write the advantages and disadvantages of the Air-cooling system. | | 6M |
|  | b) | What are the advantages of liquid cooling system and what are its limitations. | | 6M |
|  | | | | |
| 5 | a) | With a neat sketch explain about the lighting system | | 6M |
|  | b) | What are the requirements if an Ignition system? Explain in detail | | 6M |
|  | | | | |
| 6 | a) | With neat sketch explain the working of single plate clutch. | | 6M |
|  | b) | Enumerate advantages and disadvantages of centrifugal clutch | | 6M |
|  | | | | |
| 7 | a) | Discuss the construction and working of a constant mesh Gearbox | | 6M |
|  | b) | Explain the differential of an automobile with a neat sketch. | | 6M |
|  | | | | |
| 8 | a) | What are the objects of suspension system? With a neat sketch explain about torsion bar in suspension system. | | 6M |
|  | b) | Generalize the purpose of caster and Camber. | | 6M |
|  | | | | |
| 9 | a) | Draw a neat sketch of a steering system, mark all important parts on it and explain how the system works. | | 6M |
|  | b) | With a neat sketch, explain the working of hydraulic braking system. | | 6M |

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**Scheme of evaluation**

**1. Each question carries one mark**

**2.a)**Classification-6 **Marks**

**2.b) Functions: 2 Marks**

Explanation -**2 Marks**

Sketch -2 **Marks**

**3.a) Explantion-**3 **Marks**

Sketch -3 **Marks**

**3.b)** **Explantion-**3 **Marks**

Sketch -3 **Marks**

**4.a) Explantion-**2 **Marks**

Sketch -2 **Marks**

**Advantages-1Marks**

**Disadvantages-1Marks**

**4.b) Advantages-3Marks**

**Limitations-3Marks**

**5.a)** Sketch -**3 Marks**

Explanation -**3 Marks**

**5.b)** Requirements-2 **Marks**

Explanation -**4 Marks**

**6.a)** Sketch -**3 Marks**

Explanation -**3 Marks**

**6.b)**Advantages -**3 Marks**

Disadvantages -**3 Marks**

**7.a)**Sketch -2 **Marks**

Explanation -4 **Marks**

**7.b)**Sketch -**3 Marks**

Explanation -**3 Marks**

**8.a) O**bjectives -2 **Marks**

**Explantion-2 Marks**

Sketch -2 **Marks**

**8.b)** caster**-3 Marks**

Camber **-**3 **Marks**

**9.a)**Sketch -**3 Marks**

Explanation -**3 Marks**

**9.b) Explantion-**3 **Marks**

Sketch -3 **Marks**