

**B. Tech 7th Semester Examination**

**Vehicle Maintenance (NS)**

**AU-412**

**Time : 3 Hours**

**Max. Marks : 100**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Candidates are required to attempt five questions in all, selecting one question from each of the section A, B, C, D, and all the questions in Section E. Draw neat and comprehensive sketches wherever necessary to clearly illustrate your answer. Use of non-programmable calculator is also allowed.

**SECTION - A**

1. (a) What is the importance of maintenance and its scheduling for a vehicle? (10)  
(b) Explain the different types of maintenance schedules in automobile. (10)
2. (a) What are the requirements of a Service station? Draw the typical Layout of Service station for a Heavy Motor Vehicle. (10)  
(b) Discuss the records required for Heavy Vehicle Maintenance. (10)

**SECTION - B**

3. (a) Discuss in detail the inspection and repair procedure for the engine crankshafts. (10)

- (b) How do you adjust valve clearance and static ignition timing? (10)
4. (a) What is meant by calibration of fuel injection pump?(10)  
(b) Explain calibration of FIP and tuning of engine for optimum fuel supply. (10)

**SECTION - C**

5. (a) Discuss the various troubles experienced in mechanical type gear box and explain their causes and remedies. (10)  
(b) Explain any four troubles experienced in hydraulic brake system and explain how these troubles can be rectified. (10)
6. (a) Write down the steps involved in the servicing and fine tuning of the ignition system of a petrol engine with a contact breaker. (10)  
(b) Explain the maintenance procedure and the various tests to be conducted on a lead acid battery of a vehicle. (10)

**SECTION - D**

7. (a) Discuss the methodology, tools used and techniques of repairing the body panels of a passenger car damaged in a minor collision. (10)  
(b) Explain major and minor repairs of body and window glass. (10)
8. (a) Write the procedure to blend the paint for automobiles. (10)  
(b) Discuss the requirement and working of a paint booth. (10)

**SECTION - E**

9. (i) How do you differentiate reconditioning and overhauling?
- (ii) State the importance of Preventive maintenance of a vehicle,
- (iii) State the importance of Job card.
- (iv) Write any four special tools which are required for engine overhauling.
- (v) Name some anti-corrosion agents from lubricating oil of the engine.
- (vi) How do you check the excessive play in steering?
- (vii) What are the important parameters in wheel alignment?
- (viii) What is meant by Battery plate sulphation?
- (ix) What is meant by tinkering work?
- (x) What are the different types of paints for automobiles?

(10×2=20)