R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, February/March - 2022
AUTOMOBILE ENGINEERING
(Mechanical Engineering)

Time: 3 Hours   **Max. Marks: 75**

Answer Any Five Questions
All Questions carry equal marks
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1.a) What are the main components of automobile which contribute for efficient functioning? Explain.
  b) What is the need of fuel filter and explain various filters used in practice?   [8+7]

2.a) Explain the need of frequent over handling of engine and what are the various oils to be replaced.
  b) What are the functions of lubricating system an engine and explain various methods of engine lubrication?   [8+7]

3.a) What is the necessity of engine cooling and explain the relative advantages of various cooling methods?
  b) What are the various anti-freeze solutions used in practice for efficient working in cold environment? Describe the importance.   [8+7]

4.a) What are the benefits of electronic ignition system over magneto-ignition system? Explain.
  b) How the storage batteries are changed? When a battery be discarded?   [8+7]

5.a) What are the various factors affect the performance of clutch while transmitting power from engine to transmission system? Explain.
  b) Differentiate between plate clutch and cone clutch, mentioning the principle of working and applications.   [8+7]

6.a) Explain with a neat sketch the construction and working of universal joint and discuss its applications.
  b) How the steering geometry affect the performance of a car?   [8+7]

7.a) What are the properties to be considered in the selection of braking fluid used in automobiles? Describe the importance.
  b) Differentiate between Hydraulic and vacuum brakes used in the power transmission.[8+7]

8.a) How the multi-point injection system in S.I engines reduce the air-pollution? Explain.
  b) What are the advantages and disadvantages of using hydrogen as fuel in the automobiles? Describe methods to store the hydrogen.   [7+8]

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