

BABA BANDA SINGH BHADUR ENGINEERING COLLEGE, FATEHGARH SAHIB

QUESTION BANK

Subject: Automobile Engg.

Code: BMEE1 521

Teacher: N. P. Singh Deo

2 Marks questions

1. Draw the engine performance curves?
2. With the help of neat sketch draw the general layout of automobile.
3. Differentiate between frameless and unitary construction?
4. What are the various basis for the classification of automobiles?
5. How the boiling point of water is raised in a liquid cooling system?
6. Define tractive effort. What are various factors resisting motion of an automobile?
7. What is BHP and Tractive Effort?
8. What are the different types of injector nozzles?
9. What are the desired properties of lubricants?
10. Draw the diagram of Mcpherson strut suspension system.
11. What do you mean by sprung and unsprung mass of a vehicle?
12. What is double declutching in case of constant mesh gear box.
13. What do you understand by “Wheel Alignment”? Write names of steering geometry angles.
14. What are the functions of a steering system?
15. What is the function of thermostat valve?
16. Why do we need suspension system in automobiles?
17. What is aspect ratio of tyres?
18. Draw major components of drum brakes.
19. Draw a layout of rack and pinion steering system.
20. What is jump start?
21. Draw the diagram of Double wishbone suspension system.
22. What is the pour point and flash point of lubricants?
23. Why do we need suspension system in automobiles?
24. What are the desired properties of engine coolant?
25. Define steering ratio and turning radius?

26. What are the functions of brakes in an automobile?
27. What are self-energizing brakes?
28. What do you mean by 'efficiency' of an automobile battery?

5 Marks questions

1. Explain different types Chassis frames in detail.
2. With the help of neat sketch explain the working of pump circulation cooling system?
3. What is the difference between Power and Torque? Draw and explain the characteristics curves between i) Torque vs RPM ii) Power vs RPM?
4. What are the sources of pollution in an automobile? Explain various techniques to control pollution in modern vehicles.
5. What is the purpose of lubrication? Explain the properties required in a good lubricant?
6. With the help of neat sketch explain working of CRDI system?
7. With the help of neat sketch explain the working of wet sump lubrication system?
8. Define the following: Toe in, Toe out (Wheel Alignment), Camber, Castor, King pin Inclination
9. What is understeer and oversteer and its causes?
10. Explain about the battery ignition system.
11. Explain the working of an automobile shock absorber with the help of a neat sketch.
12. Explain the working of single plate coil spring clutch with the help of neat sketches.
13. Explain the working of rack and pinion type steering system.
14. Explain in detail about the following Chasis frames:
 - Conventional
 - Semi integral
 - Frameless
 - Unitary
15. Discuss the common troubles occurring in the starting system of an automobile engine. Suggest also suitable remedies
16. Explain the working of 'Anti-lock braking system' with the help of a block diagram.

17. Describe briefly
- Octane number
 - Cetane number
18. Explain each of following steering geometry angles and their effects:
- a. Toe in & toe out
 - b. Camber angle
 - c. Castor angle
 - d. King pin inclination
19. Explain the working of Macpherson strut and double wishbone suspension system with the help of neat sketch.
20. What is understeer and oversteer and its causes?
21. What is Ackerman condition for proper steering?
22. Give the detailed explanation about the automobile rack and pinion type steering system with neat sketch.

10 Marks questions

1. Explain with diagram the various constructional parts of elementary carburettor and its modifications.
2. Describe in detail about pollution due to vehicle emission and their control system.
3. What are the different types of gearboxes and explain any one in detail?
4. Describe the construction and working of the both units (Motor unit & Drive unit) of the starting motor with the help of neat diagrams.
5. Explain the constructional parts and working of Differential with the help of diagram.
6. Sketch a master cylinder and explain its working.
7. Describe common rail direct injection system in diesel engines?
8. Describe the design & working of a elementary carburetor. Also discuss about modification in simple carburetor to meet different conditions?
9. Explain different types of engine emission and their after treatment?
10. Explain briefly
 - a) Function of cooling system
 - b) Function of lubrication system
 - c) Demerits of overcooling

d) Properties of lubricants

11. Explain the working and function of bellow type thermostat with the help of neat sketch.

12. What are the main components of lubrication system and their function?

13. Give the detailed explanation about the various types of automobile lubrication systems with neat sketches.

14. Explain briefly

e) Requirements of clutch

f) Function of Transmission system

g) Types of transmission

15. Explain the working of single plate diaphragm spring clutch with the help of neat sketch and its advantages.

16. What are the main components of synchromesh gear box and their function?

17. What is torque convertor and fluid flywheel? Explain in detail with the help of diagrams.

18. Give the detailed explanation about the automobile differential with neat sketch.

19. What are the requirements of clutch and explain diaphragm spring type clutch?

20. Differentiate the basic differences between a manual and automation transmission. List down the merits and demerits of various types of automatic transmissions used in cars.

Explain the operating principle and working of a torque convertor with the help of a neat sketch.

21. Explain the working of constant mesh gearbox with diagram.

22. Explain briefly

- Requirements of suspension system
- Function of steering system
- Anti roll bar
- Types of suspension system