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SECTION - B (ESSAY TYPE QUESTIONS)
(5×5 = 25 Marks)

1. Illustrate stages of normal combustion in a spark ignition engine. Compare it with abnormal combustion situation.
2. Differentiate between 2 stroke and 4 stroke engine. Mention two real life applications of 2 stroke engines.
3. Which type of engine utilizes injection system and why. What will happen if spark plug is used in place of injector in this engine?
4. In general hydraulics is employed for high force system, explain how it is used in automobiles for application of brake.
5. A Manufacturer mentioned bore of the engine as 52 mm and stroke as 76 mm in the manual of a single cylinder SI vehicle. What type of vehicle it is and what type of is its engine. The calculation give which type of volume of the engine, comment.
6. Turbochargers capitalize on some of the "free" energy that would otherwise be completely lost in the exhaust. Comment.
7. Explain the following:
 - a) Regenerative Braking
 - b) Transmission system
8. Draw a theoretical Valve timing diagram of a SI Engine. Compare with actual running SI engines.

===END OF PAPER===

2112E145

BACHELOR OF VOCATION
Mechanical Manufacturing
Subject: Automobile Engineering
Subject Code: ME-603
Semester: Third
December 2021
Theory (External): 35 Marks
Time: 03 hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

SECTION -A (OBJECTIVE TYPE QUESTIONS)
(10x1=10 Marks)

- A. The size of an engine intake valve is
- Same as that of exhaust
 - Smaller than exhaust valve
 - Larger than exhaust valve
 - None of the above
- B. If the air-fuel ratio in a spark ignition engine is too lean, then air fuel ratio is:
- 18:1
 - 15:1
 - 12:1
 - None of the above
- C. Ratio of brake HP and indicated HP is known as
- Thermal efficiency
 - Mechanical efficiency
 - Volumetric efficiency
 - Relative efficiency
- D. Define the function of supercharger.
- E. What do you mean by MPFI system in spark-ignition engine.
- F. The basic purpose of transmission in an automobile is
- To vary size of the automobile
 - To vary the torque at the wheels
 - To vary engine speed
 - None of the above
- G. In an automobile, what is the function of an emission system
- H. Technician A says that the master fluid reservoir is where the brake fluid is stored and checked. Technician B says that if you don't have brake fluid, windshield washer fluid can be used as a substitute. Who is correct?
- Technician A
 - Technician B
 - Both A & B
 - None of the above
- I. The basic difference between Hatchback and Sedan is
- In hatchback trunk can be accessed from inside.
 - In sedan trunk can be accessed from inside.
 - Trunk can be accessed from inside in both
 - Sedan and hatchback are same and differ only in outer design.
- J. Technician A says that most new vehicles have ABS. Technician B says that ABS minimizes wheel lockup (skidding) by using sensors at each wheel (or in the differential) to monitor wheel speed. Who is correct?
- Technician A
 - Technician B
 - Both A & B
 - None of the above