

2023

Automotive (Vocational)

Total marks: 50

Time: 2 hours

General instructions:

- i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
- ii) *All questions are compulsory except Q. nos. 18 to 23 where general option is given.*
- iii) *The question paper consists of 23 questions.*
- iv) *Marks allocated to every question are indicated against it.*

N.B: *Check that all pages of the question paper are complete as indicated on the top left side.*

1. Choose the correct answer from the given alternatives: 10x1=10

- i. The manuals provided by the manufacturers which cover the servicing, maintenance and repair of their products is called
 - (a) service manual
 - (b) owner's manual
 - (c) maintenance manual
 - (d) insurance manual
- ii. Push rod are made of
 - (a) alloy steel
 - (b) carbon manganese steel
 - (c) carbon steel
 - (d) austenitic steels
- iii. Typically clutch overhauls are required every
 - (a) 80000-90000 kms
 - (b) 75000-80000 kms
 - (c) 70000-80000 kms
 - (d) 60000-70000 kms
- iv. The study of the forces at work on a moving car is called
 - (a) road isolation
 - (b) road holding
 - (c) vehicle dynamics
 - (d) aero dynamics
- v. Which of the following is **not** a component of air conditioning system?
 - (a) Compressors
 - (b) Dryer
 - (c) Expansion valve
 - (d) Battery
- vi. Which of the following is a key communication skill?
 - (a) Speaking
 - (b) Feedback
 - (c) Channel
 - (d) Eye contact
- vii. According to Helen Keller, optimism is the faith that leads to achievement. Nothing can be done without hope and
 - (a) dreams
 - (b) confidence
 - (c) strengths
 - (d) enjoyment
- viii. What is the short cut key to underline text in a spreadsheet?
 - (b) Ctrl+b
 - (b) Ctrl+i
 - (d) Ctrl+l
 - (d) Ctrl+u
- ix. It provides energy for ignition.
 - (a) Ballast Resistor
 - (b) Capacitor
 - (c) Battery
 - (d) Distributor

- x. The Government of India launched the National Action Plan on Climate Change (NAPCC) on
- | | |
|---------------|---------------|
| (a) June 2007 | (b) June 2008 |
| (c) June 2009 | (d) June 2010 |

Answer the following questions in one word or one sentence:

- | | |
|--|---|
| 2. Why is regular servicing of automobile necessary? | 1 |
| 3. Write the full form of MPFI. | 1 |
| 4. Write one purpose of wheel alignment. | 1 |
| 5. Write one use of hazard light. | 1 |
| 6. State any two factors that affect active listening. | 1 |
| 7. Write two ways to manage stress in our daily life. | 1 |
| 8. List any two main types of data. | 1 |
| 9. What is green job? | 1 |

Answer the following questions in 20-50 words:

- | | |
|--|-------|
| 10. Write any two benefits of wearing seat belt. | 2 |
| 11. Briefly explain any two functions of a piston ring. | 2 |
| 12. What is engine valve used for? Name any two components of valve train. | 1+1=2 |
| 13. Draw the universal joint and label any two part of it. | 1+1=2 |
| 14. What is a steering linkage? What is the purpose of steering linkage? | 1+1=2 |
| 15. What are the two wear characteristics of tyre due to excessive camber? | 2 |
| 16. Write any two disadvantages of battery ignition system. | 2 |
| 17. What is interpersonal skill? State any two characteristics of interpersonal skill. | 1+1=2 |

Answer any four from the following questions in 60-100 words:

- | | |
|---|-------|
| 18. What is an injector nozzle? Write any three causes of faulty injection nozzle. | 1+3=4 |
| 19. What is bearing? Briefly explain any three types of sliding bearings used in internal combustion engines. | 1+3=4 |
| 20. Name the different types of automatic power transmission system and explain any one of it. | 2+2=4 |
| 21. Explain any two different technologies used for automation of transmission system. | 4 |
| 22. Give four reasons to justify why a suspension system is needed in an automobile. | 4 |
| 23. Explain any four different components of air condition. | 4 |
