

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD
Technical and Vocational Education Examination



BASIC VEHICLE TECHNOLOGY 1
5150

JUNE XXXX

INTERMEDIATE LEVEL

Centre No. & Name	
Candidate No.	
Candidate Name	

Mobile phones are **NOT** allowed in the examination room.

5150 BASIC VEHICLE TECHNOLOGY 1: MULTIPLE CHOICE QUESTION PAPER

1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

1. USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Before the examination begins:

3. Check that this question booklet is headed "**Intermediate Level – 5150 BASIC VEHICLE TECHNOLOGY 1.**"
4. Insert the information required in the spaces above.
5. Insert the information required in the spaces provided on the answer sheet using your HB pencil:

Candidate Name, Exam Session, Subject Code, Centre Number and Candidate Number.

Take care that you do not erase or fold the answer sheet or make any marks on it other than those asked for in these instructions.

How to answer the questions in this examination:

6. Answer **ALL** the **50** questions in this Examination. All questions carry equal marks.
7. Each question has **FOUR** suggested answers: **A, B, C** and **D**. Decide which answer is correct. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.
For example, if **C** is your correct answer, mark **C** as shown below:
[A] [B] [C] [D]
8. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
9. Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
10. Do all rough work in this booklet, using, where necessary, the blank spaces in the question booklet.
11. **You must not take this booklet and the answer sheet out of the examination room. All question booklets and answer sheets will be collected at the end of the examination.**

Turn Over



1. In which system of the vehicle is the catalytic converter found ?

A	Torque converter
B	Inlet manifold
C	Exhaust system
D	Top cylinder

2. CX signifies:

A	Coefficient of gravity
B	Coefficient of aerodynamic
C	Coefficient of friction
D	Coefficient of resistance

3. A two stroke engine has ___ number of ports

A	2
B	3
C	4
D	1

4. The _____ reduces the amount of toxic substances released by the vehicle

A	Emission system
B	Ignition system
C	Ignition system
D	Lubrication system

5. The opening and closing of engine is controlled by:

A	Cam lobes
B	combustion chamber
C	camshaft
D	crankshaft

6. The functions of diodes when used in the automobile charging system are to:

A	Rectify DC to AC and to prevent the battery from discharging
B	Rectify AC to DC and to prevent the battery from discharging through the alternator when the engine is not running
C	Prevent battery from draining through the alternator when the engine is off
D	Convert Alternating current to direct current

7. The part that converts electrical energy from the battery into mechanical energy is

A	the alternator
B	the ignition coil
C	the starter motor
D	the headlamp

8. The CI engine uses _____ to initiate the combustion

A	Injector
B	spark-plug
C	Candle

D	Ignition coil
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9. The heater plug is used to

A	heat the engine temperature during cold weather
B	pre-heating the combustion chamber during cool starting
C	burnt the diesel fuel in the combustion chamber
D	ignite the charge

10. Dog- clutch

A	permits the secondary shaft rotates faster than the speed of the engine
B	modifies the speed of the primary shaft
C	connects up two shafts and make them rotate at the same speed
D	reinforces the engine speed

11. A connecting rod is used to

A	provide rotation to levers
B	change linear motion to rotary motion
C	change vertical motion to pivotal motion
D	provide greater mechanical advantage

12. If a battery is charged at 50%, the apparatus used for reading will display

A	1.270
B	1.230
C	1.190
D	1.145

13. The SI engine uses _____ type of fuel for combustion

A	diesel/oil
B	Petrol
C	gas/air
D	air/diesel

14. A transaxle case contains both the

A	carburettor and drive shaft use in light vehicles
B	suspension components and brakes used in heavy duty vehicles
C	multi-cylinder engine and clutch used in commercial vehicles
D	transmission and differential in one case use in front wheel drive vehicles

15. What device prevents sloshing of fuel in the tank?

A	Baffles
B	Filler cap
C	Passage in the baffle
D	Filler neck



16. Hydraulic floor jack is used

A	To remove king pin bush
B	To lift the wheel
C	To press the bush
D	To hold the job

B	equal
C	one and half times
D	double

17. The main function of an exhaust muffler is the:

A	Reduction of exhaust noise
B	Transformation of exhaust gas
C	Cooling down of exhaust gas
D	Analyzing of exhaust gas

24. The tilting of the front wheels away from the vertical of the wheel when viewed from the front is called

A	Camber
B	caster
C	Toe-in
D	Toe-out

18. The exhaust manifold ports direct all the engine's burned gases into the----- housing

A	Converter
B	Vacuum
C	Turbine
D	LED

25. An exhaust valve is

A	A hole in the cylinder head that opens when piston is at TDC
B	A mechanism used in releasing the combustion products from the cylinder
C	A small opening at the top of cylinder head for releasing burnt gasses
D	The pipe connecting the exhaust gas to the muffler

19. The main advantage of Macpherson strut suspension is that

A	The vertical size of the suspension can be made more compact
B	Non vertical external forces are supported by the suspension arms
C	The unsprung mass is lighter
D	The assembly is slightly more complicated in design

26. The term TDC means:

A	The Crankshaft displacement corresponding to a piston at the top of its stroke
B	Top dead center
C	valve positioning corresponding to a piston at the top of its stroke
D	Crankshaft positioning corresponding to a piston at the top of its stroke

20. One advantage of a tube tyre over tubeless type is

A	Slow air leakage
B	Better fuel efficiency
C	Less chances of running flat
D	Soft and less expensive

21. An overinflated tyre will wear the tread greatly at the

A	edges
B	corners
C	centre
D	walls

27. The intake manifold is a -----tube for carrying the air/fuel mixture from the carburetor to the engine intake port.

A	Cast iron
B	brass
C	steel
D	Aluminum alloy

22. The correct flow of power through the drive train is

A	Engine drive shafts, clutch, main shaft, counter shaft, final driven gear, wheels
B	Engine clutch, main shaft, counter shaft, final driven gear, drive shafts, wheels
C	Engine clutch, counter shaft, main shaft, final driven gear, drive shafts, wheels
D	Engine main shaft, counter shaft, clutch, final driven gear, drive shafts, wheels

28. One function of the first compression ring (top ring) is that it:

A	Increases the combustion temperature
B	Creates swirl .
C	Maintains a seal and prevents the fuel leakage
D	Maintains a seal and prevents escape of burned gases and loss of pressure in the combustion chamber

23. The drive shaft of an ignition distributor is rotated at ___ the engine speed in four stroke engine

A	Half
---	------

29. With a side mounted camshaft The motion of the cam is transferred to the valves through

A	pistons
B	Rocker arms
C	Crankshaft pulley

30. One component of the transmission system of a vehicle is:
- | | |
|---|----------------|
| D | Valve stem |
| A | Crankshaft |
| B | Connecting rod |
| C | Piston |
| D | Drive shafts |
31. One electrical source of a vehicle is:
- | | |
|---|---------------|
| A | Clutch |
| B | Starter motor |
| C | Ignition coil |
| D | battery |
32. Unsprung weight is
- | | |
|---|-------------------------------------|
| A | The weight supported by the tires |
| B | The weight supported by the springs |
| C | Unique movement transfer |
| D | Fast movement |
33. One type of alternator connection is:
- | | |
|---|----------------------------|
| A | Series-Parallel connection |
| B | Series connection |
| C | Star connection |
| D | Parallel connection |
34. The function of a starter motor is
- | | |
|---|---------------------------------------|
| A | To make the vehicle idling |
| B | To crank/start the engine |
| C | To supply light |
| D | To reduce drivers effort when driving |
35. In a two stroke engine, which of the following functions are performed at the same time?
- | | |
|---|-------------------------|
| A | Compression and exhaust |
| B | Intake and exhaust |
| C | Intake and expansion |
| D | Intake and Compression |
36. Identify the number of cells of a 12 volts battery
- | | |
|---|---------|
| A | 2 cells |
| B | 4 cells |
| C | 6 cells |
| D | 8 cells |
37. The capacity of a battery is expressed in
- | | |
|---|-------------|
| A | Volts |
| B | Amperes |
| C | Ampere/hour |
| D | ohms |
38. When a cold engine is started, it requires a:
- | | |
|---|--------------------------|
| A | Leaner mixture |
| B | Richer mixture |
| C | chemically equal mixture |
| D | Weaker mixture |
39. Maximum torque is generated by an engine when
- | | |
|---|---------------------------|
| A | It runs at lowest speed |
| B | It develops maximum power |
| C | It consumes maximum fuel |
| D | It runs at maximum speed |
40. Uneven tire wear occurs on the vehicle because of:
- | | |
|---|--------------------|
| A | Braking system |
| B | Suspension System |
| C | Steering system |
| D | Lubrication system |
41. One type of mechanical brakes of automobile vehicle is
- | | |
|---|---------------------------|
| A | Internal expanding brakes |
| B | Drum brakes |
| C | Vacuum brakes |
| D | Single brakes |
42. The main cause of sulphation of the lead acid battery
- | | |
|---|-----------------------------------|
| A | Prolonged abandonment without use |
| B | Good level of electrolyte |
| C | Sufficient charge rate |
| D | Poor charge rate |
43. Choose the correct specific density of electrolyte of a fully charged battery
- | | |
|---|--------------|
| A | 1.2 to 1.21 |
| B | 1.2 to 1.28 |
| C | 1.21 to 1.23 |
| D | 1.28 to 1.30 |
44. The component of the suspension system that prevents the control arm from swinging to the front or rear of the vehicle is.
- | | |
|---|----------------------|
| A | Control arm bushings |
| B | Strut rod |
| C | Stabilizer bar |
| D | Strut |
45. As a vehicle goes over a bump, its multi-leaf springs are held together by the:
- | | |
|---|-----------------|
| A | spring shackles |
| B | rebound clips |
| C | bumper blocks |
| D | clip plates |
46. One type of manual steering box layout is
- | | |
|---|------------------|
| A | Sector and lever |
| B | Worm and nut |
| C | Nut and lever |
| D | Ram and sector |
47. The most common type of worm and nut steering gear
- | | |
|---|--------------|
| A | Rolling ball |
|---|--------------|

B	Rotating ball
C	Recirculating ball
D	Reducing ball

48. One information presented in a letter-number sequence on the sidewall of a tyre is

A	Tyre size
B	Tread wear rating
C	Speed rating
D	Load index

49. What type of tyre imbalance that will cause the vehicle to vibrate up and down and from side to side?

A	Static
B	Radius
C	Dynamic
D	Spiral

50. give one function of the lubrication system

A	Dissipate movement
B	Cools the engine
C	Facilitate combustion
D	Eliminate friction between mobile parts

