

AUTO MECHANICS

EXAMINATION SCHEME

There will be three papers, Papers 1, 2 and 3 all of which must be taken. Papers 1 and 2 shall be a composite paper to be taken at one sitting.

PAPER 1: will consist of forty multiple-choice objective questions all of which are to be answered in 1 hour for 40 marks.

PAPER 2: will consist of five essay questions. Candidates will be required to answer any four questions in 1½ hours for 60 marks.

PAPER 3: will consist of two practical tests both of which must be carried out by candidates in 2 hours for 100 marks. For the practical test, schools will supply materials needed locally.

SAMPLE QUESTIONS

PAPER 1 (OBJECTIVE)

- Which of the following types of maintenance require(s) replacement of parts?
 - Predictive and preventive
 - Corrective and preventive
 - Corrective only
 - Predictive only
- Which of the following is a general purpose *fire extinguisher* ?
 - Dry chemical
 - Wet sand
 - Water
 - Foam
- The engine compression tester reading is measured in
 - Nm/m².
 - Kpa.
 - Mm/H₂O.
 - Mm. Hg.

4. Which of the following drive arrangements does **not** make use of a *transaxle*?
 - A. Front engine, front wheel drive
 - B. Rear engine, rear wheel drive
 - C. Four wheel drive
 - D. Front engine, rear wheel drive

5. When checking the compression of an engine, the compression tester is connected to the
 - A. exhaust manifold.
 - B. intake manifold.
 - C. spark plug hole.
 - D. oxygen hole.

6. The component that raises the temperature of refrigerant to a temperature higher than the ambient is the
 - A. condenser.
 - B. receiver-drier.
 - C. evaporator.
 - D. compressor.

7. The class of drivers' license required by a tractor operator is the
 - A. class G.
 - B. class F.
 - C. class E.
 - D. class B.

8. Which of the following is **not** a component of a car air conditioning system?
 - A. Expansion valve
 - B. Radiator
 - C. Evaporator
 - D. Condenser

9. The car air conditioner is directly driven by
 - A. flywheel.
 - B. camshaft.
 - C. battery.
 - D. crankshaft.

10. Which of the following is the function of the differential unit? It
- A. allows the half shafts to rotate at different direction.
 - B. reduces the tendency for tyres dragging when cornering.
 - C. changes the direction of the drive through 90° .
 - D. increases torque by reducing speed.

PAPER 2
(ESSAY)

1. (a) (i) Sketch a rigid beam front suspension system.
(ii) Label **four** of its parts.
(b) State the functions of **any two** parts of the system labelled in a)(ii).
(c) State **two** forces acting on the axle shaft?
2. (a) (i) With the aid of a sketch, describe the operation of the water cooling system of a motor vehicle.
(ii) Label **three** parts of the sketch in 2 (a)(i) above.
(b) Name the materials used in the manufacturing of the following:
(i) cylinder head;
(ii) cylinder head gasket;
(iii) engine block.
3. (a) Define transmission system as applied to a motor vehicle.
(b) (i) Sketch a clutch plate.
(ii) Label **any three** parts of the sketched clutch plate in (b)(i) above.