



ELECTRICAL AND ELECTRONIC TECHNOLOGY 1
5135

JUNE XXXX

INTERMEDIATE LEVEL

Centre No. & Name	
Candidate No.	
Candidate Name	

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

5135 ELECTRICAL AND ELECTRONIC 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 – 5135 ELECTRICAL AND ELECTRONIC 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. Which of the following is a load device?

A	Battery
B	Circuit breaker
C	Blower motor
D	Fog lamp switch

2. What happens to the total current in a parallel circuit, when one of the branches are removed?

A	Stays the same
B	Goes up
C	Goes down
D	Changes to equal the resistance

3. The plastic piece attached to the end of a wire that houses the wire terminal or terminals is the

A	Terminal
B	Plug
C	Connector
D	Socket

4. When doing an Open-Circuit Voltage Test on a fully charged battery, an acceptable voltage reading would be

A	9.6 volts
B	11.5 volts
C	12.6 volts
D	15.3 volts

5. Which of the following is a probable cause for a low charge on a battery

A	Loose drive belt
B	Poor spark
C	Good wiring
D	Incomplete combustion

6. In order to obtain enough cranking power from the starting motor, the circuit that runs through it must have

A	Low resistance
B	High resistance
C	High voltage
D	Open circuit

7. The ring form of segment and mounted near one end of the armature shaft and through which current passes to and from the armature windings is called the

A	Carbon brushes
B	Rotor plates
C	Commutator
D	Ring gear

8. If an engine does not crank and the lights stay bright the trouble could be

A	an open circuit in the switch
B	series connection with lamps
C	low resistance along the lighting circuit
D	1Blown bulbs

9. What variation of the formula, $V = I \times R$, is used to determine current?

A	$I = R/V$
B	$I = V/R$
C	$I = V \times R$
D	$I = R \times V$

10. Which device uses magnetic force in its operation?

A	Fuse
B	Relay
C	Resistor
D	Capacitor

11. What do we call dwell angle?

A	It is that angle corresponding to the open period of the contact points
B	It is that angle corresponding to the closed period of the contact points
C	It is the angle corresponding to piston travel
D	It is the movement of the crankshaft

12. What is the maximum voltage of an alternators charging current?

A	12v
B	14v
C	16v
D	10v

13. The capacity of an automobile battery refers to

A	its size
B	its duration to store current
C	the quantity of current it can supply for a given time
D	its life span

14. Resistive cable is

A	cable made from resistance wire
B	cable which resist flexing
C	cables with resistors at each end
D	cable composed of carbon carried upon nylon or similar materials

15. An electric cable is classified as 28/0.30. this means that the cable

A	Has 28 strands, each strand having diameter of 0.30mm
B	Has a diameter of 28, each strand a diameter of 0.30mm
C	Consist of 28 strands, each strand will carry 0.30A
D	Will carry 28A, each strand taking 0.30A

16. The function of the electromagnetic device used in vehicle control equipment is to

A	Economise the use of current
B	Limit output of the dynamo
C	Connect the generator to the battery
D	Open and close contacts

17. Simple electric horn has

A	several disc attached to the horn armature
B	bellows attached to the horn armature
C	one diaphragm and one tune disc
D	one tune disc mounted internally

18. The series windings motor developes

A	high speed
B	high power
C	high torque
D	maximum torque when stationary

19. Two circuits of the charging system are

A	the motor circuit and the control circuit
B	the input circuit and the output circuit
C	the output circuit and the field circuit
D	the field circuit and the input circuit

20. Field current is often called

A	flux current
B	excitation current
C	polarity current
D	stator current

21. One safety when diluting sulphuric acid for battery electrolyte is

A	pour the acid into the water in a mixture container
B	pour the water into the acid in a mixture container
C	pour both at once
D	pour the acid in the battery and mix it there

22. Battery life can be shorten by

A	sulfation caused by charging voltage that is below specification
B	excessive voltage caused by charging voltage that is above specification
C	unregulated charging voltage
D	blown diodes in the alternator

23. The unit in an electronic regulator of an alternator that prevents the flow of current until a given voltage is supplied is

A	Zener diode
B	Transistors
C	Diodes
D	Condenser

24. Ballast resistors are used to

A	increase the voltage to the ignition after the engine has started
B	decrease the voltage of the ignition after the engine has started
C	connect the battery to the starter solenoid
D	reduce the voltage supplied to the starting circuit

25. A zener diode allows reverse current flow at the point of

A	bias voltage
B	breakdown voltage
C	system voltage
D	forward voltage

26. Battery electrolyte is approximately

A	One third sulphuric acid and two thirds water
B	Two third sulphuric acid and one third water
C	Half water and half sulphuric acid
D	One quarter sulphuric acid and three quarters water

27. Controlled movement of electrons from one point to another is called:

A	Voltage
B	Current
C	Resistance
D	Capacitance

28. Transistors are made from :

A	Conductor
B	Insulator
C	Semiconductor
D	Transit

29. An electrical device that restricts the flow of electric current is called

A	an insulator
B	a conductor
C	an electrode
D	an earth connection

30. The gases given off by a lead acid battery nearing this end of its charge are

A	oxygen and nitrogen
B	oxygen and hydrogen
C	helium and hydrogen
D	nitrogen and hydrogen

31. The amount of electrical energy that can be obtained from a battery is known as

A	Battery power
B	Battery voltage
C	Battery current
D	Battery capacity

32. AC in an alternator is rectified by

A	Brushes
B	Diodes
C	Slip rings
D	Transistors

33. An alternator consists of

A	A stator, rotor, slip ring, brushes and diodes
B	Stator, armature, slip ring, brushes and diodes
C	Stator, rotor, commutator, brushes and diodes
D	Stator, rotor, field relay, brushes and diodes

34. A group of three or more diodes may be called:

A	Diode wing
B	Diode triplet
C	Diode dish
D	Diode bridge

35. Alternator output voltage is directly related to

A	field strength
B	rotor speed
C	both field strength and rotor
D	neither field strength nor rotor

36. A one-way clutch in a pre-engaged starter motor

A	prevent the engine from driving the motor
B	prevents the motor from driving the engine
C	stops the motor when the engine starts
D	starts the motor to turn the engine

37. The ignition component that steps up voltage is the

A	Capacitor
B	Condenser
C	Coil
D	King lead

38. In a conventional ignition system, when the contacts open, the current is shunted into

A	a diode
B	a transistor
C	a condenser
D	the coil

39. The starter-motor fails to move when switched on, where is the fault likely to be?

A	Broken pinion
B	Discharged battery
C	Worn flywheel ring gear
D	Worn overrunning clutch

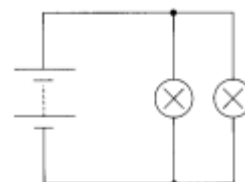
40. A symptom of battery overcharging is

A	excessive sulphation of plates
B	excessive sparks
C	excessive gassing
D	excessive corrosion of terminals

41. The head lamp high beam filament is placed:

A	Behind the focus
B	Behind the focus
C	In front the focus
D	At the focus

42. The bulbs in the circuit below are connected in:



A	Cascade
B	Parallel
C	Series
D	Series parallel

43. A lead-acid battery should be topped up with

A	sulphuric acid
B	distilled water
C	sulphuric acid and distilled water
D	electrolyte at the correct relative density

44. A device that reduces arcing of the contact breaker point is a/an

A	Distributor.
B	Capacitor.
C	Inductor.
D	Resistor

45. The ignition component that produces high tension current is

A	Magneto.
B	Coil.
C	Armature.
D	Distributor

46. The generator works on the principles of

A	Mechanical induction
B	Electromagnetic induction
C	Thermodynamic induction
D	Semiconductors

47. Which of the following is a probable cause of a low charge on a battery ?

A	Loose drive belt
B	Open battery circuit
C	Excessive gassing
D	Leakage of cells

48. What prevents the engine from driving the starter motor?

A	The flywheel
B	The solenoid
C	The over-running clutch
D	The armature

49. Which of the following is a protective device in an electric circuit?

A	A switch
B	A resistor
C	A fuse
D	A connector

50. The following lights are grouped under signalisation:

A	Trafficator lights, brake and reverse lights
B	Head lamps, side lamps and fog lights
C	Ceiling lights, number plate lights and packing lights
D	Throw back, dashboard lights and boot light