Army Burn Hall college for boys Abbottabad

Model paper for admission in AS level

Accounting

Max Marks: 25

<div align="center">

SECTION A   **(10 marks)**

</div>

Q.1. a) Answer **ALL** parts. Circle **one** letter for each multiple-choice item.

1. Which of the following best explains the purpose of charging depreciation on non-current assets?

    A. To reduce the selling price of the asset

    B. To calculate the replacement cost of the asset

    C. To spread the cost of the asset over its useful life

    D. To determine the market value of the asset

2. A credit sale of $500 to Ahmed was wrongly recorded in the books as a credit purchase. Which journal entry is required to correct the error?

    A. Dr Ahmed $500, Cr Purchases $500

    B. Dr Sales $500, Cr Purchases $500

    C. Dr Purchases $500, Cr Sales $500

    D. Dr Sales $500, Cr Ahmed $500

3. Which of the following costs would be considered a marginal cost?

    A. Factory rent

    B. Raw materials used

    C. Insurance premium

    D. Depreciation on machinery

4. A machine was purchased for $12,000 on 1 January 2022. It is to be depreciated at 20% per annum using the reducing balance method. What is the depreciation charge for the year ended 31 December 2023?

    A. $2,400

    B. $1,920

    C. $4,800

    D. $3,840

5. A company sells a product for $20. The variable cost is $12 per unit and the fixed costs are $8,000. How many units must be sold to break even?

    A. 400

    B. 667

    C. 1,000

    D. 2,000

b) Fill in the blanks

6. Posting a sales invoice to the wrong customer account is an error of _____.

7. The _____ control account summarizes all amounts owed by credit customers.

8. An error that affects both debit and credit sides equally but in the wrong accounts is called
an error of _____.

9. If a cheque is dishonored, it must be _____ in the cash book and adjusted in
the bank reconciliation.

10. If a cheque received was not deposited into the bank, it would appear in the
_____ but not in the bank statement.

SECTION B

Q.2. a) Ali owns a sole trader business. The following balances were extracted from his trial
balance as at 31 December 2024:   (09 marks)

Item	$
Capital	50,000
Drawings	10,000
Inventory (1 January 2024)	8,000
Purchases	60,000
Sales	95,000
Carriage inwards	2,000
Rent expense	4,000
Wages	12,000
Trade receivables	7,000
Trade payables	5,000
Equipment (cost)	25,000
Accumulated depreciation (1 Jan)	5,000
Bank	6,000

Adjustments:
1. Inventory at 31 December 2024 was $10,500.
2. Equipment is to be depreciated at 20% per annum on cost.
3. Rent accrued at year-end was $500.

Required:

a) Prepare the **Income Statement** for the year ended 31 December 2024.   (4 marks)

b) Prepare the Statement of Financial Position (extracts only for non-current assets and capital section) as at 31 December 2024.   (3 marks)

c) Comment on the change in inventory and how it affects the profit.   (2 marks)

b) Define the following terms: (06 marks)

    i. Prudence concept"

    ii. Matching concept:

    iii. Consistency concept:

Army Burn Hall College for Boys
Model Paper – June 2026

COMPUTER SCIENCE   **Max Marks: 25**

Attempt all questions.

Name: _____Roll No:_____

Q. 1   Select the correct options.

i.   _____memory built into the CPU of a computer system where values and instructions are temporarily held?

   a   RAM   b   ROM   c   Cache   d   Registers

ii.   Name the process in which sound is recorded at set timed intervals.

   a   Encryption   b   Sampling   c   Frames   d   Binary States

iii.   _____error is an error in the code that causes the program to do something it should not?

   a   Execution   b   Genera   c   Syntax   d   Logical

iv.   _____computer program is designed to disrupt or damage a computer system.

   a   Spyware   b   antivirus   c   Malware   d   Thread

v.   In _____IP address the device retains that IP address unless it is changed, even if the device is disconnected and re-connected to the network.

   a   Dynamic   b   static   c   ISP   d   SD IP

Q. 2   Fill in the blanks.

i.   In_____method we use a parity bit to make sure that the data has been sent accurately?

ii.   In _____form the requested information is downloaded from a web server?

iii.   _____computer program takes a whole program written in a high-level language and translates into machine code?

iv.   _____type of database is created and stored on a computer?

v.   A data structure that holds a collection of values of the same data type is called _____.

Q. 3   A procedure twelve () reads an integer number from the text file number.txt. It then outputs the 12 times table for that number. Write the procedure twelve ().

_____

_____

_____

_____

_____

_____

_____[3]

Q.4 Calculate the size of an audio track which is 3 minutes and 30 seconds (210 seconds in total) in length, recorded in stero, samples at 44khz (44000Hz) with a sample depth of 16 bits.

_____

_____

_____

_____

_____

_____

_____[3]

Q.5 A student has a computer that has a Von Neumann architecture. The CPU in the computer performs the fetch-decode-execute cycle to process data and instructions.

(a) Identify the name of the component where an instruction is stored immediately before it is fetched into the CPU.

_____

_____[1]

(b) Describe what happens at the decode stage of the cycle.

_____

_____

_____

_____

_____

_____[2]

Q.6 The string operation SUBSTRING (Quote, Start, Number) returns a string from Quote beginning at position Start that is Number characters long. The first character in Quote is in position 1.
Write pseudocode statements to:
    a) store the string "Learning Never Exhausts The Mind" in Quote
    b) extract and display the words "The Mind" from the string
    c) Output the original string in lower case.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____[6]

PHYSICS   **Marks: 10**
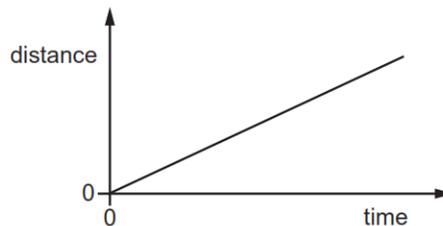
Multiple Choice Questions
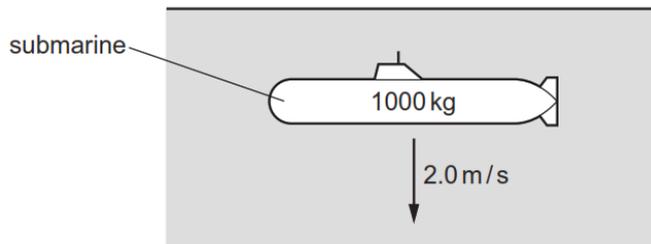

Name: _____

Encircle the correct option.

1   The diagram shows the distance–time graph of a car.

The car is travelling along a straight road up a hill.
Which quantity for the car is constant and greater than zero?
A.   Acceleration   B.   Displacement
C.   Gravitational potential energy   D.   Kinetic energy

2   A small submarine of mass 1000 kg sinks in water with a constant speed of 2.0 m / s.

What is the resultant force exerted on the submarine as it sinks?

A.   0   B.   500 N   C.   2000 N   D.   9800 N
                               downwards   downwards   downwards

3 Pot X and pot Y are both in a cool room. Pot X contains hot water below its boiling point. Pot Y is identical to pot X but contains water that is kept boiling by a hotplate underneath it.


What happens to the average kinetic energy of the particles in the liquid water in pot X and to the average kinetic energy of the particles in the liquid water in pot Y?

|	Kinetic energy of liquid particles in X	Kinetic energy of liquid particles in Y
A.	Decreases	Increases
B.	Decreases	Does not change
C.	Stays the same	Increases
D.	Stays the same	Does not change

4 A small motor has an input power rating of 10 W and is switched on for 5.0 minutes. What is the electrical energy input to the motor in this time?

    A.   2.0 J   B.   50 J   C.   300 J   D.   3000 J

5 The diagrams show light travelling in air incident on the surface of a glass block. Some light is reflected and some light is refracted. Which diagram shows the reflection and refraction of the light?
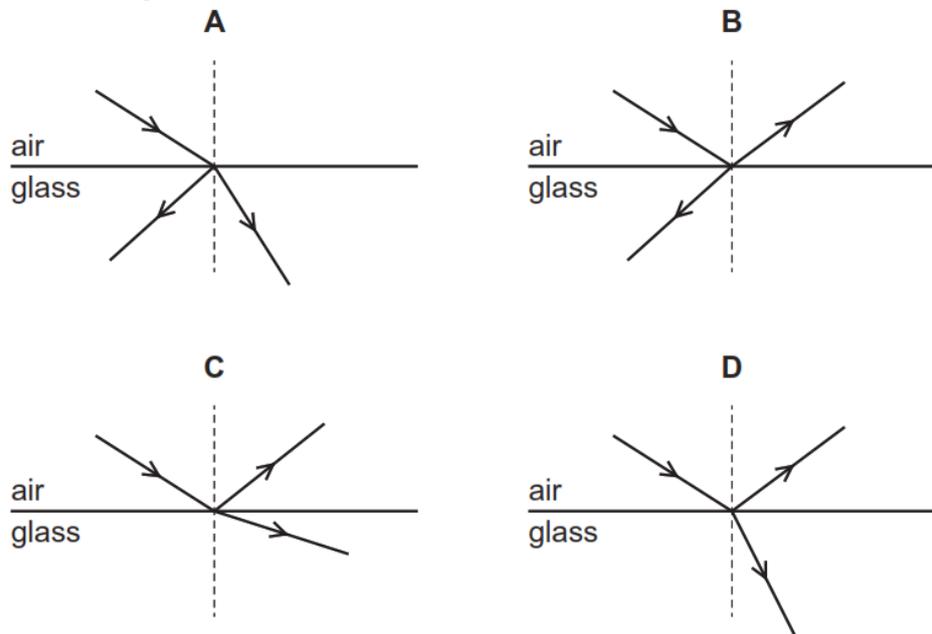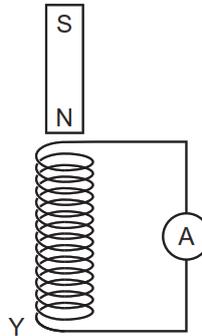
6   Circuits P and Q each contain two identical resistors, each of resistance R.
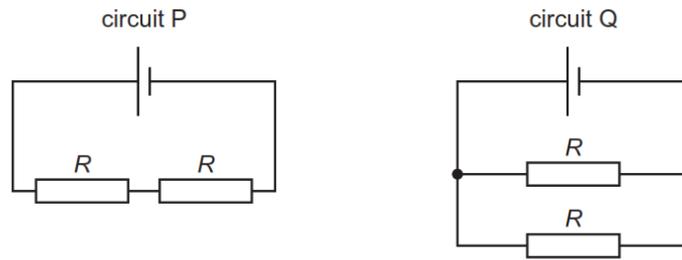
circuit P   circuit Q

What is the resistance of circuit P and what is the resistance of circuit Q?

	Resistance of circuit P	Resistance of circuit Q
A	R	R/2
B	R	2R
C	2R	R/2
D	2R	2R

7   A bar magnet is dropped through a vertical solenoid that is connected to a sensitive ammeter.

A current is induced in the solenoid and the solenoid becomes an electromagnet. Which row describes the polarity of end Y of the solenoid and the force between the solenoid and the bar magnet when the bar magnet leaves the solenoid?

	polarity of end Y of the solenoid	force between solenoid and bar magnet
A	North	Attraction
B	North	Repulsion
C	South	Attraction
D	South	Repulsion

8   A charger for a mobile phone (cellphone) uses a transformer which steps the voltage down from 230 V to 5.0 V. The primary coil in the transformer has 2500 turns.
How many turns are on the secondary coil?

A.   11   B.   54   C.   500   D.   11 500

9   The isotope radon-222 has a half-life of 3.8 days.
Which statement about a sample containing 1.0 mg of radon-222 is correct?

A.   After 1.9 days there is 0.50 mg of radon-222 left.

B.   After 3.8 days there is 0.50 mg of radon-222 left.

C.   Its half-life is half that of a 2.0 mg sample.

D.   There is no radon-222 left after 7.6 days.

10   What is the first stage in the life cycle of stars?

A.   A black hole   B.   A cloud of gas and dust

C.   A red supergiant   D.   A supernova

Theory   **Marks 15**

1   It takes 4.5 hours to charge the battery with an average current of 300 mA. Calculate the quantity of charge that enters the battery. Give the unit of your answer.

charge = ... unit .... [3]

2   Fig. 2.1 shows light passing through a triangular glass prism.
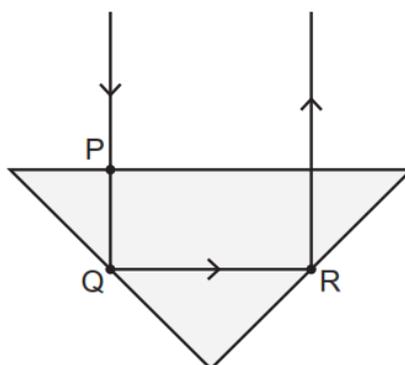
Fig. 2.1

(a) State the value of the angle of incidence at point P.

angle of incidence = ... ° [1]

(b) State two conditions needed so that no light refracts from the glass into the air at point Q.

1

....

....

2

....

....[2]

3   Fig. 3.2 shows the apparatus a student uses to produce an alternating current (a.c.).

magnet   coil

                                          centre-zero
                                          ammeter

Fig. 3.2

The magnet is moved into and out of the coil.

(a) Explain why a current is produced when the magnet moves.

....
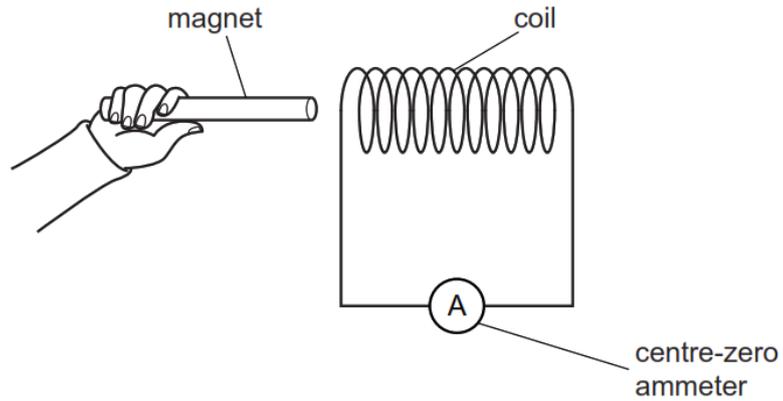
....

.... [2]

(b) Describe the movement of the magnet that produces an a.c. of frequency 0.50 Hz.

....

.... [1]

4   Fig. 4.1 is a picture of a nebula formed from a supernova.

Fig. 4.1

(a) State what is meant by 'a supernova'.

....

....[1]

(b) Describe how a protostar forms inside a nebula.

....

....

....[2]

5   Alpha particles are sometimes emitted from the nuclei of radioactive elements.
     This emission is both random and spontaneous.
      (a) Describe what is meant by 'spontaneous' emission.

     ....

     .... [1]
      (b) Describe the composition of an alpha particle.

     ....

     .... [2]

Model Paper Biology AS Level

Total Marks: 25 Marks

Section A

Q1) Multiple choice questions

1) Two enzyme-controlled reactions are shown.

amino acids $\xrightarrow{\text{enzyme 1}}$ proteins

proteins $\xrightarrow{\text{enzyme 2}}$ amino acids

From these reactions, what deduction can be made about enzymes?
   a) Enzyme 1 has been changed to enzyme 2.
   b) Enzyme 2 slows down the production of amino acids.
   c) Enzymes can build up large molecules.
   d) Enzymes only break down large molecules.

2) Four test-tubes were set up as shown in the diagram. In which tube is the starch digested most quickly?
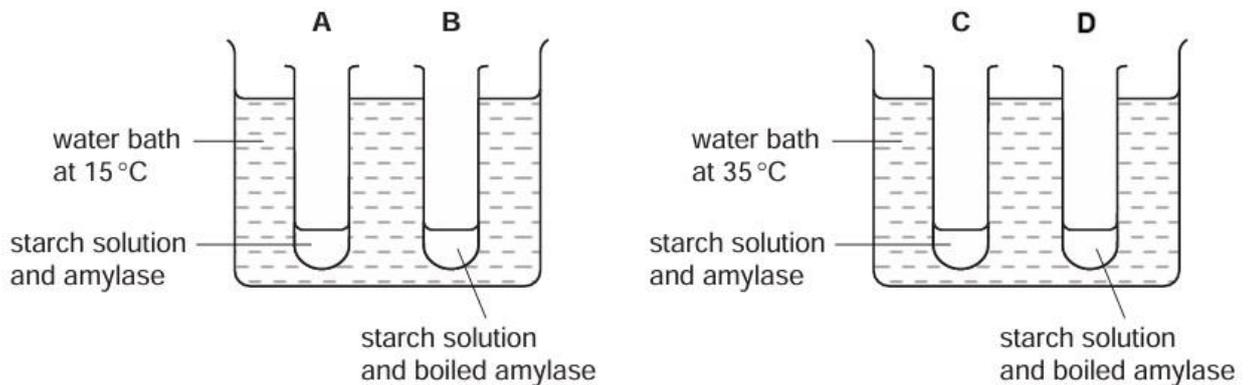
3) Plants manufacture their own supplies of carbohydrate. What are the raw materials and the waste product of this process?

	raw materials	waste product
A	carbon dioxide and chlorophyll	oxygen
B	carbon dioxide and water	oxygen
C	oxygen and chlorophyll	carbon dioxide
D	oxygen and water	carbon dioxide

4) By which process is water lost from a leaf?
   a) active transport
   b) diffusion
   c) osmosis
   d) photosynthesis

5) In a photosynthesis experiment, a plant is left in bright sunlight for several hours. A leaf is then removed from the plant and tested for starch, using iodine solution.

The diagram shows the leaf from the plant that was used in the experiment.

white area

green area
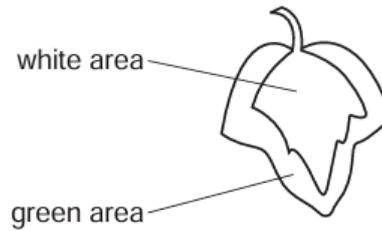
Which diagram shows the result of the experiment?

A   B   C   D

key

iodine solution turns blue/black

iodine solution stays brown
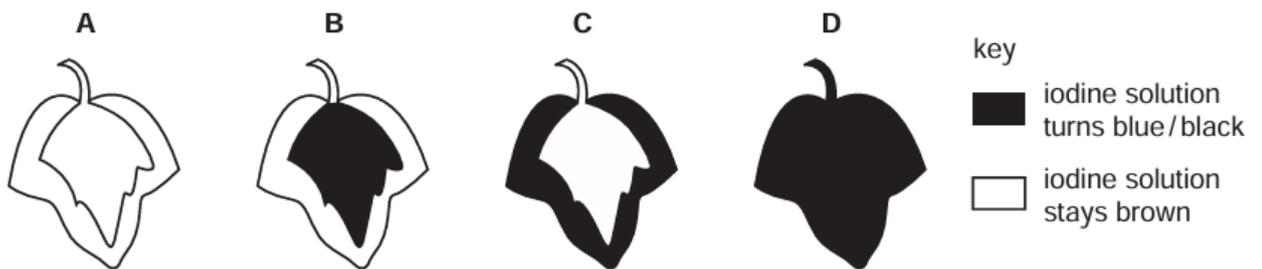
6) The diagram shows the human heart and some of the blood vessels connected to it.

W   Z
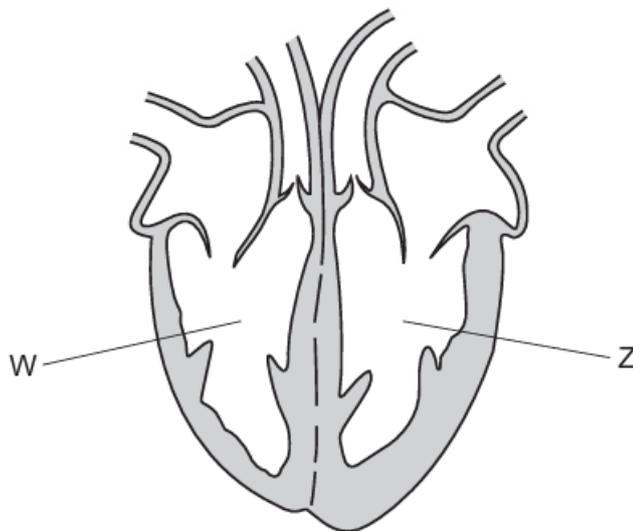
Before blood in W reaches Z it must
   a) gain glucose.
   b) give up heat to the skin.
   c) pass through capillaries.
   d) travel to the head.

7) In a person with a low platelet level, which process is slower than normal?
   a) antibody formation
   b) blood clotting
   c) oxygen carriage
   d) phagocytosis

8) The diagram shows an experiment to investigate gas exchange in a leaf.
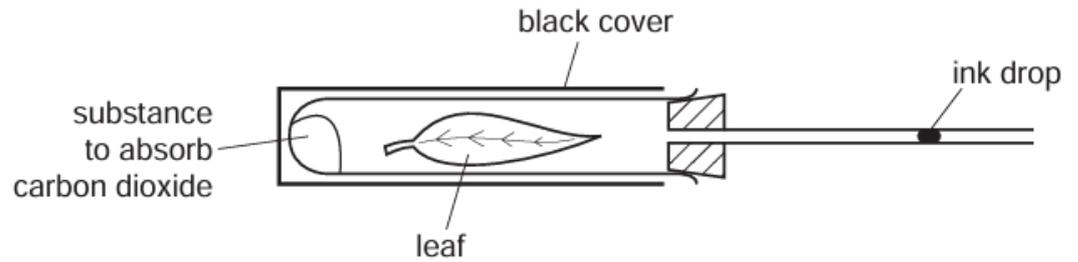
In which direction does the ink drop move and for what reason?

	direction	reason
A	to the left	photosynthesis
B	to the left	respiration
C	to the right	photosynthesis
D	to the right	respiration

9) The diagram shows some of the muscles and bones of the human arm.
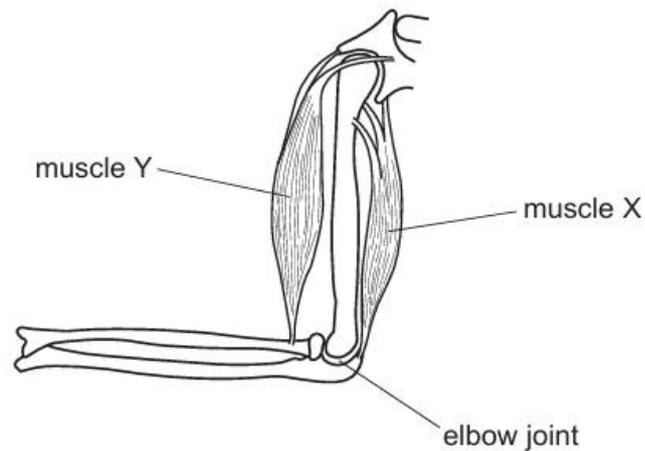
When muscle X contracts, what happens to the arm and what happens to muscle Y?

	arm	muscle Y
A	bends	contracts
B	bends	relaxes
C	straightens	contracts
D	straightens	relaxes

10) A bright light suddenly shines into a person's eyes. What happens?
   a) The lenses become more concave.
   b) The lenses become more convex.
   c) The pupils become larger.
   d) The pupils become smaller.

Section B (3x5=15)
Structured/Short Answer Questions
Attempt all questions.

1) Ecologists study plants and animals in their natural environment. Some ecologists inserted probes into the water-conducting tissue in trees, as shown in Fig. 1.1.The ecologists measured the time taken for water to move up from probe 1 to probe 2.

Fig 1.1

(i) Name the water-conducting tissue into which the two probes were inserted.

....[1]
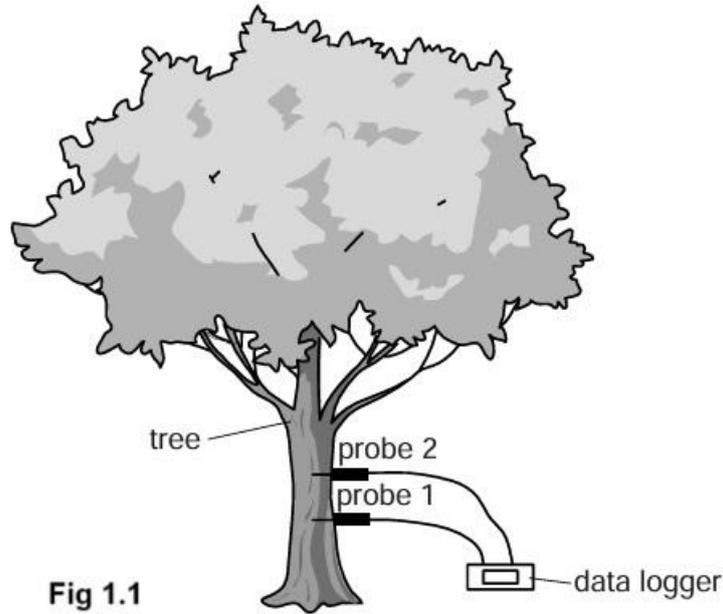
(ii) Describe how the structure of water-conducting tissue is adapted to its function.

....
....
....
....
....[2]

Total [03]

2) (a) Define the term genetic engineering.

....
....
....
....
....[2]

(b) Fig. 2.1 is a flow diagram that shows how insulin can be produced using genetic engineering. [3]
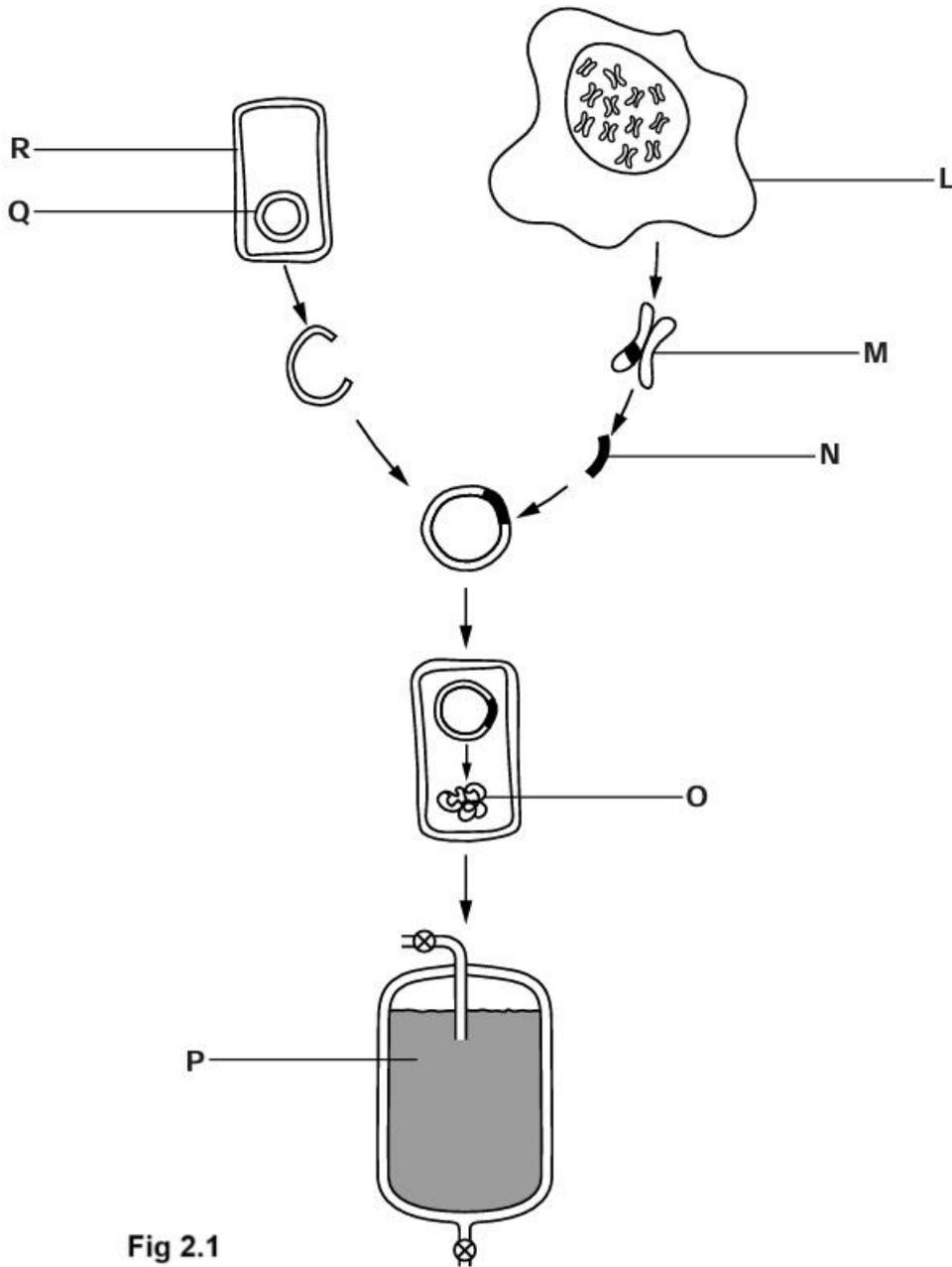
Fig 2.1

The genetically engineered cells in Fig. 2.1 reproduce asexually. Explain the advantages of asexual reproduction for insulin production by genetic engineering.

....
....
....
....
....[2]

Total [7]

3) Haemoglobin is a large protein molecule. The structure of each haemoglobin molecule is controlled by a gene that has two alleles:
   - HbA codes for the normal form of haemoglobin,
   - HbS codes for an abnormal form of haemoglobin.
o Red blood cells containing only the abnormal form of haemoglobin become a stiff, sickle shape in conditions of low oxygen concentration. This gives rise to sickle cell anaemia.
o Describe the harmful effects on the body of having red blood cells which become sickle-shaped.

....

....

....

....

....

....

....

....

....

....[5]

----

1. Which of the following best describes a stakeholder?
   A. A person who buys shares in a business
   B. Any individual or group affected by the business's decisions
   C. Only employees and managers of a business
   D. Government authorities regulating the business

2. Which business objective focuses primarily on environmental and social responsibilities?
   A. Profit maximization
   B. Sales growth
   C. Ethical objectives
   D. Revenue maximization

3. A company introduces new production machinery that reduces waste by 40%. What type of objective is the company pursuing?
   A. Operational efficiency
   B. Market expansion
   C. Product differentiation
   D. Workforce development

4. What is the most likely impact on a business if it prioritizes short-term profits over long-term sustainability?
   A. Increased customer loyalty
   B. Reduced operational efficiency
   C. Risk to brand reputation and long-term success
   D. Higher employee morale

5. A small bakery expands its product range to include gluten-free items due to rising demand. This is an example of:
   A. Cost leadership strategy
   B. Market penetration
   C. Product development
   D. Market skimming

Section A

Define the following terms:
a) Opportunity cost (2 marks)
b) Stakeholder (2 marks)

1. Explain two objectives that a private sector business might have. [3]

Section B
Case Study:
"Zyma Ltd is a small manufacturing company that produces eco-friendly cleaning products. It operates in a highly competitive market and is planning to expand by entering online retail platforms."

1. Identify and explain one internal and one external factor that may affect Zyma Ltd's expansion. [4]

2. Suggest two ways Zyma Ltd could improve its competitiveness in the online market. [3]

Section C

1. Evaluate whether becoming a private limited company (Ltd) is the best legal structure for Zyma Ltd as it expands. Justify your answer. [6]

Model Paper Chemistry
Class AS level

Marks : 25

Attempt all questions

1 Which physical changes are both exothermic?

    A condensation and evaporation

    B evaporation and melting

    C freezing and condensation

    D melting and freezing

2 What is tap water?

    A a compound

    B a mixture of compounds and elements

   **C** a mixture of elements

    D an element

3 In which pair of particles is:

- the sum of their charges equal to zero
- the sum of their masses almost the same as the of one twelfth of carbon twelve.

    A one electron and one neutron

    B one electron and one proton

    C one neutron and one proton

    D two neutrons

4 An element has two isotopes of relative isotopic masses x and $x+2$.

The diagram shows the composition of atoms in a sample of the element.
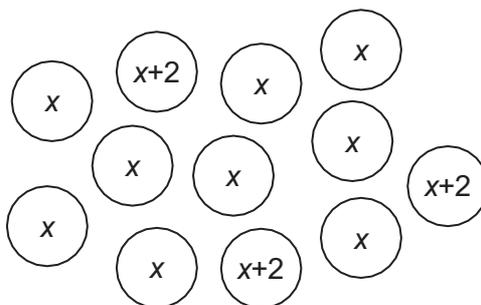
What is the relative atomic mass of the sample of the element?

    A $x+0.5$ **B** $x+1.0$ **C** $x+1.5$ **D** $x+2.0$

5 Which molecule has only four electrons involved in covalent bonds?

A Cl_2 **B** CO_2 **C** H_2S **D** N_2

6 The melting points and boiling points of four compounds, W, X, Y and Z, are given in the table.

	melting point /°C	boiling point /°C
W	63	354
X	–7	59
Y	1728	2230
Z	-183	–89

The four compounds are silicon(IV) oxide, ethane, bromine and a carboxylic acid of formula $C_{16}H_{32}O_2$.

Which row identifies W, X, Y and Z?

|	silicon(IV) oxide	ethane	bromine	carboxylic acid $C_{16}H_{32}O_2$
A	W	X	Z	Y
B	W	Y	Z	X
C	Y	Z	W	X
D	Y	Z	X	W

7 What is the formula of zinc oxide?

A Zn_2O **B** ZnO **C** Zn_2O_3 **D** ZnO_2

8 Which statement is correct?

A If the relative formula mass of hydrated sodium carbonate, $Na_2CO_3 \cdot xH_2O$, is 286, then *x* is 10.

B Phosphoric(V) acid, H_3PO_4, has a relative molecular mass of 50.

C The relative atomic mass of a sample of an element with isotopes of masses 20 and 22 can only be equal to 21.

D The relative atomic mass of an element is the average mass of atoms of isotopes of the element compared with the mass of a hydrogen atom.

9 In a volumetric experiment, 25.0 cm^3 of 0.100 mol/dm^3 sodium hydroxide reacts exactly with 20.0 cm^3 of dilute sulfuric acid.

$$2NaOH + H_2SO_4 \rightarrow Na_2SO_4 + 2H_2O$$
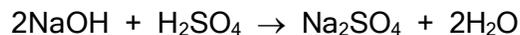
What is the concentration of the dilute sulfuric acid?

A 0.0625 mol/dm^3

B 0.0800 mol/dm^3

C 0.125 mol/dm^3

D 0.250 mol/dm^3

10 The equation for the reaction between ammonium chloride and calcium hydroxide is shown.

$$2NH_4Cl + Ca(OH)_2 \rightarrow 2NH_3 + CaCl_2 + 2H_2O$$
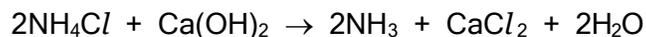
10.7 g of ammonium chloride and 14.8 g of calcium hydroxide are mixed and warmed.

10.0 g of calcium chloride is obtained from the reaction.

What is the percentage yield of calcium

chloride? [M_r: NH$_4$Cl, 53.5; Ca(OH)$_2$, 74;

CaCl$_2$, 111]

A 39.2%   **B** 45.0%   **C** 67.6%   **D** 90.1%

2) Fig. 1.1 shows the electronic configurations of five atoms, A, B, C, D and E.
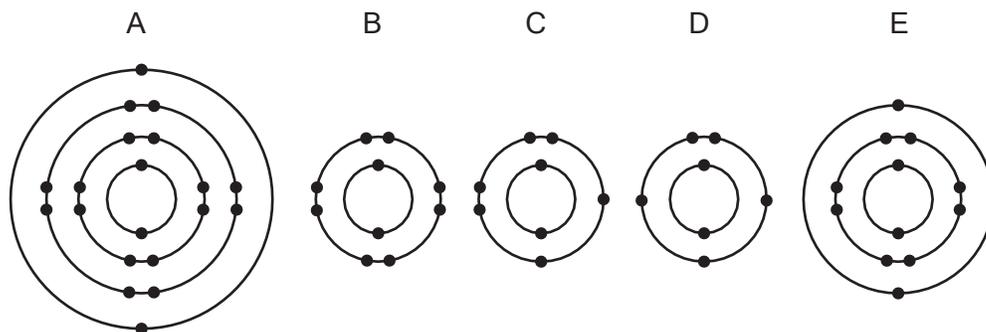
A   B   C   D   E

Fig. 1.1

Answer the questions about these electronic configurations.

Each electronic configuration may be used once, more than once or not

at all. State which electronic configuration, A, B, C, D or E, represents:

(i)   an atom of a noble gas

....[1]

(ii)   an atom of an element that is used in food containers because of its resistance to corrosion

....[1]

(iii) an atom of an element in Group V of the Periodic Table

....[1]

(iv) an atom of an element in Period 3 of the Periodic Table

....[1]

(v)   an atom that forms a stable ion with a charge of 2-.

....[1]

(b) Deduce the number of protons and neutrons in the vanadium atom shown.

$^{51}_{23}V$

number of protons ....

number of neutrons ....
                                                                                                                          [2]

3) a. Explain why calcium carbonate is added to the blast furnace.

Include any relevant reactions or equations in your answer.

....
.....

....
.....

....[2]

b. The equation shows the reaction of iron with steam in a closed container.

$$3Fe(s) + 4H_2O(g) \rightleftharpoons Fe_3O_4(s) + 4H_2(g)$$

Predict and explain what happens to the position of equilibrium when the pressure is increased. The temperature remains the same.

prediction ....

explanation ....

....
[1]

(i) When nonane is cracked, shorter hydrocarbon molecules are formed.

Construct the symbol equation for a reaction in which nonane is cracked and the only products are propane and ethene.

....[1]

(i) Propane reacts with chlorine and forms the products.
Calculate the enthalpy change of this reaction in kJ/mol.

Use the bond energies in Table 4.1.

Table 4.1

type of bond	C–C	C–H	Cl–Cl	C–Cl	H–Cl
bond energy in kJ / mol	347	413	243	346	432

enthalpy change =   --------------------KJ   (2)

(a) Describe how to prepare pure, dry crystals of zinc chloride after reacting excess zinc with dilute hydrochloric acid.

....

....

....

....

....[2]

A level   **Economics**   **Model Paper**   **Max Marks. 25**

Choose the correct answer from given options ((10× 0.5= 5 marks)

1. The cost of next best alternative forgone is known as
   a) Scarcity   b) Choice   c) Opportunity cost   d) Resource
2. The study of individual unit of the economy is known as
   a) Macroeconomics   b) Microeconomics   c) Development economics

   d) Economics

3. GDP is an indicator of
   a) Economic growth   b) Education   c) Production from abroad   d)Efficiency
4. Movement along the demand curve is due to changes in
   a) Price   b) Income   c) Taste   d) Fashion
5. Goods which are desirable but underprovided by market forces are called
   a) Demerits goods   b) Merit goods   c) Private goods   d) Public goods
6. Street light is an example of
   a) Private goods   b) Public goods   c) Free goods   d) Merit goods
7. Goods which are used to produce others goods and services are known as
   a) Consumer goods   b) Capital goods   c) Finished goods   d) Intermediate goods
8. Interest rate is the tool of
   a) Fiscal policy   b) Monetary policy   c) Supply-side policy   d) Protectionism
9. Persistent increase in general price level over a period of time is known as
   a) Inflation   b) Consumer price index   c) Deflation   d) Disinflation
10. The study about how to allocate resources to fulfil unlimited wants is known as
    a) Microeconomics   b) Economics   c) Macroeconomics   d) Development economics

Attempt all questions. Each question carries equal marks (5×3=15)

1. Explain demand law with the help of diagram.
2. What is meant by fiscal policy?
3. Explain various methods/tools of protection policy.
4. Explain the concept of market economic system.
5. Define perfect competition

O-Level   **Economics**   **Entry Test**   **Max Marks. 20**

Choose the correct answer from given options (10× 0.5=5 marks)

1. The willingness and ability to buy is known as
   a) Supply   b) Demand   c) Purchasing power   d) Wants

2. The study of economy as a whole is known as
   a) Macroeconomics   b) Microeconomics   c) Development economics

   d) Economics

3. The reward for labor is
   a) Capital   b) Salary   c) Rent   d) Profit

4. Sun light is an example of
   a) Economic goods   b) Free goods   c) Public goods   d) Capital goods

5. There is a/an between price and quantity demanded
   a) Direct relationship   b) Indirect relationship   c) Positive relationship

   d) Linear relationship

6. Those goods which are undesirable for society but overprovided by the market
   economic system are known as
   a) Public goods   b) Private goods   c) Demerits goods   d) Merit goods

7. Economics is a science of
   a) Scarcity and choice   b) Choice and opportunity cost   c) Needs and wants

   d) Production

8. A market structure where there is a single seller/supplier is called
   a) Perfect competition   b) Monopolistic competition   c) Monopoly

   d) Oligopoly

9. Disposable income = Income –
   a) Expenditure   b) Taxes   c) Saving   d) Consumption

10. Market equilibrium is described as when there is a
    a) Shortage   b) Surplus   c) Demand equals to supply

    d) Instability of prices

Attempt all questions. Each question carries equal marks (5×3=15)

1. Explain the law of supply with the help of diagram.
2. What is meant by monetary policy?
3. Differentiate between economic goods and free goods.
4. Explain price elasticity of demand.
5. Define GDP (Gross Domestic Product).