

**GENERAL SCIENCE****SECTION A- OBJECTIVE (Marks-20)**

<b><u>PAPER PATTERN</u></b>	<b><u>MARKING SCHEME/GUIDELINE</u></b>
This section comprises of 20 MCQS from Unit no 1-12. 18 MCQS from exercises and 2 MCQS from inside the Chapter based on SLO's	1- Marks will be awarded for correct answer

**SECTION B- SUBJECTIVE (Marks-48)**

<b><u>PAPER PATTERN</u></b>	<b><u>MARKING SCHEME/GUIDELINE</u></b>
This section is composed of 15 questions having short answers. Students will attempt 12 questions from this section.  13 questions have been taken from exercises unit (1-12) and 2 questions are constructed inside the chapter.	Each Question is of 4 Marks. Full Marks will be awarded for correct answer.

**SECTION C- SUBJECTIVE (Marks-32)**

<b><u>PAPER PATTERN</u></b>	<b><u>MARKING SCHEME/GUIDELINE</u></b>
This section is composed of 6 questions. Question no 3-8. Students will attempt 4 questions from this section. This section cover all units (1-12). 4 questions are from exercises of chapters while 2 parts of 2 questions are constructed inside the chapter based on SLO's.	Each Question of this section is of 8 Marks. Questions are composed of two parts. Full Marks will be awarded for correct answer(with Diagram if required).

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Time Allowed: 25 minutes

**SECTION - A (Objective) (Marks-20)****Q.1. (a) Encircle the correct option (a, b, c, d) each part carries one marks (20)**

- (i) **In an ecosystem, the energy flow is always**  
(a) Bidirectional (b) Random (c) Down in a pyramid (d) Unidirectional
- (ii) **The most common NON-BIODEGRADABLE pollutant is**  
(a) Wood (b) Leaf litter (c) Bodies of dead animals (d) Plastic bags
- (iii) **Brain stem includes all EXCEPT**  
(a) Medulla oblongata (b) Midbrain (c) Cerebellum (d) Pons
- (iv) **The chromosomes are chemically composed of**  
(a) DNA and carbohydrates (c) Proteins and lipids  
(b) DNA and Proteins (d) DNA and lipids
- (v) **The best solution of hereditary disease is**  
(a) Vaccination (b) Immunization (c) Chemotherapy (d) Gene therapy
- (vi) **Period number of neon (atomic number 10) is**  
(a) 1 (b) 2 (c) 3 (d) 4
- (vii) **The reaction between sodium and water produces**  
(a)  $H_2$  (b)  $O_2$  (c) NaCl (d)  $Na_2CO_3$
- (viii) **Which acid is used in car battery?**  
(a) HCl (b)  $HNO_3$  (c)  $CH_3COOH$  (d)  $H_2SO_4$
- (ix) **The atmospheric pressure will be lowest**  
(a) In Islamabad (b) In Lahore (c) In Karachi (d) On top of  $K_2$
- (x) **Force applied per unit area gives**  
(a) Buoyancy (b) Pressure (c) Friction (d) Net force

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- (xi) Which letter after reflection from plane mirror will remain unchanged?  
(a) K (b) E (c) M (d) J
- (xii) To get an enlarge and upright image, which mirror we should use  
(a) Convex mirror (b) Concave mirror (c) Plane mirror (d) Rough mirror
- (xiii) The unit of current is  
(a) Coulomb (b) Volt (c) Ohm (d) Ampere
- (xiv) The device that is used to protect a circuit against overload is  
(a) Heater (b) Fuse (c) Lamp (d) Switch
- (xv) A wind turbine converts the wind kinetic energy into  
(a) Heat (b) Electricity (c) Thermal energy (d) Solar energy
- (xvi) The distances in space are measured in  
(a) Meters (b) Miles (c) Light years (d) Kilometers
- (xvii) Optical telescopes make use of  
(a) X-rays (b) Infra-red light (c) Visible light (d) Radio waves
- (xviii) A football is at rest on ground the forces acting on it are  
(a) Zero (b) Balanced (c) Unbalanced (d) Uncountable
- (xix) Hydrogen present in Group I-A. The number of electrons in its outermost shell is:  
(a) 2 (b) 1 (c) 3 (d) 0
- (xx) In covalent bonding:  
(a) Electron are not involved (b) Electrons are donated from the outer shell  
(c) Electrons are mutually shared (d) Electrons are gained



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Time Allowed: 2:40 - hours

**SECTION - B (Subjective) (Marks -48)****Q .2 Attempt any twelve parts from the following.**

- (i) How can you grow plants of warm area in a region with low environmental temperature?
- (ii) Differentiate between receptors and effectors?
- (iii) State the importance of mitosis in human life.
- (iv) What is the importance of fermented food?
- (v) Suggest why copper and aluminum are used in electricity cables?
- (vi) Define the following
  - (a) Double covalent bond
  - (b) Triple covalent bond
- (vii) Toothpastes are made slightly alkaline. Justify.
- (viii) Why stepping of high heeled shoes hurts more than flat shoes?
- (ix) How can we see ordinary non-luminous objects if black is not a color of the visible light, why some object still looks black?
- (x) What advantage will a crane have with electronic over other cranes? Can it use a permanent magnet?
- (xi) Why it is better to use concave mirror rather than convex mirror in solar cooker? What potential you see for the solar cooker to be used in Pakistan?
- (xii) What is the source of sun's energy? Is our sun in motion through space?
- (xiii) How biotechnology can transform the way of treating diseases? What factors affect how tall people grow?
- (xiv) In which portion of periodic table are present metals and non-metals? And why alkali metals are kept under oil?
- (xv) Why an electrical device need two conducting paths from a voltage source to operate?

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## SECTION –C (Marks 8x4=32)

Answer any FOUR questions and draw diagram where necessary.

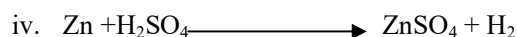
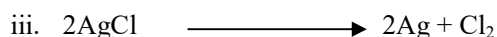
**Q .3** a) Explain briefly flow of energy in an ecosystem. 3

b) Can you tell how positive activities of human can help to restore an ecosystem 5

**Q .4** a) Differentiate between Reflex arc and reflex action. 3

b) Explain how biotechnology is helping to solve the issue of food shortage? 5

**Q .5** a) Following are some reactions, identify types of reactions: 4



b) Draw an ionic bond between two atoms. Describe the formation of ionic bond with an

Example. illustrate with diagram. 4

**Q .6** a) Differentiate between strong and weak acids with examples. 4

b) Two chemical reactions are occurring in beaker A and in beaker B. In beaker A, temperature changes from 25°C to 40° C. In beaker B, temperature changes from 25°C to 20°.

(i) What are the changes in temperature in these beakers? 2

(ii) Which of these reactions is exothermic and endothermic? 2

**Q .7** a) What is buoyancy? What determines the object to sink or float? 1+3

b) Why do some stars end up as neutron stars or black holes? 4

**Q .8** What is wind turbine? How is it used to produce electricity? 4+4

