

**SECTION -I**

- Q.02. (A) Explain Artificial Intelligence (AI)? Highlight the advantages and disadvantages of AI. 15  
(B) Should AI be regulated? 05  
(C) What is Kyoto Protocol?
- Q.03. (A) What are the different sources of Renewable Energy in Pakistan? Why has Pakistan failed to harness the full potential of renewable energy? 10  
(B) What do the following abbreviations stand for; discuss the function of each. 10  
(a) WWW (b) HTTP (c) HTML (d) PDF (e) URL.
- Q.04. Write short notes on any four (04) of the following: 20  
(a) Radio Waves and their uses (b) Radioactivity and its uses in medicine  
(c) The Importance of Vitamin D for the human body. (d) Light Year  
(e) Water pollution and its causes
- Q.05. (A) Explain the Exclusive Economic Zone (EEZ) of Pakistan and its economic advantages 10  
(B) What are the causes of Global warming? 05  
(C) Explain the function of enzymes 05

**SECTION-II**

- Q.06. (01) An instrument store gives a 10% discount to all students of the original cost of an instrument. During a back to school sale an additional 15% is taken off the discounted price. Julie, a student at the local high school, purchases a flute for \$306. How much did it originally cost? 04  
(i) 325 (ii) 375 (iii) 400 (iv) 408 (v) 425
- (02). If  $y(x - 1) = z$  then  $x =$  04  
(i)  $y-z$  (ii)  $z/y + 1$  (iii)  $y(z-1)$  (iv)  $z(y-1)$  (v)  $1-zy$
- (03). Which of the following value is NOT equal to  $34(58+9)$ ? 04  
(i)  $34 \times 67$  (ii)  $58(34+9)$  (iii)  $34 \times 58 + 34 \times 9$  (iv)  $1,972+306$  (v)  $(9 + 58) 34$
- (04). Two angles of a triangle measure  $15^\circ$  and  $85^\circ$ . What is the measure for the third angle? 04  
(i)  $50^\circ$  (ii)  $55^\circ$  (iii)  $60^\circ$  (iv)  $80^\circ$  (v)  $90^\circ$
- (05). If 5 ounce is equal to 140 grams, then 2 pounds of ground meat is equal to how many grams? 04  
(i) 863 (ii) 878 (iii) 896 (iv) 915 (v) 932
- Q.07. (01). Sara is twice as old as her youngest brother. If the difference between their ages is 15 years. How old is her youngest brother? 04  
(i) 10 (ii) 15 (iii) 20 (iv) 25 (v) 30
- (02). Which of the following fractions is equal to  $5/6$ ? 04  
(i)  $20/30$  (ii)  $15/24$  (iii)  $25/30$  (iv)  $40/54$  (v)  $2/7$
- (03). What will it cost to tile a kitchen floor that is 12 feet wide by 20 feet long if the tile cost \$8.91 per square yard? 04  
(i) 224.51 (ii) 237.6 (iii) 246.55 (iv) 271.38 (v) 282.32
- (04). In a writing competition, the first place winner receives  $1/2$  of the prize money. The second runner up receives  $1/4$  of what the winner won. What was the total amount of prize money distributed if the winner receives \$6,000? 04  
(i) \$6,000 (ii) \$8,500 (iii) \$12,000 (iv) \$15,000 (v) 18,500
- (05). You are lying 120 ft away from a tree that is 50 feet tall. You look up at the top of the tree. Approximately how far is your head from the top of the tree in a straight line? 04  
(i) 50 feet (ii) 75 feet (iii) 120 feet (iv) 130 feet (v) 150 feet
- Q.08. (a) After a discount of 25% the sale price of a substance is Rs. 846. What was the original price of the suitcase? 10  
(b) The assets of a business man increased from 120000 to Rs. 580000. What was the rate of Change? 10

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**SINDH PUBLIC SERVICE COMMISSION, HYDERABAD.**

**COMBINED COMPETITIVE EXAMINATION, 2020 AFRESH  
GENERAL SCIENCE AND ABILITY**

Friday, 16<sup>th</sup> JUNE 2023

Time: 10:00 a.m. to 01:00 p.m

Maximum Marks: 100

**Note: Attempt Five Questions by selecting two (02) questions from each section. Question No.01 is Compulsory. All Questions carry equal marks.**

**QUESTION No.**

**Marks**

- Q.01. Choose the correct Answer from the following options: 20
- (i) What plays the most important role in regulating temperature and determining climate on the Earth?  
(A) Oceans (B) Mountains (C) Deserts (D) Forests
  - (ii) Which of the following is a water-soluble vitamin?  
(A) Vitamin A (B) Vitamin C (C) Vitamin D (D) Vitamin K
  - (iii) Which part of the donor's eye is utilized in eye donation?  
(A) Cornea (B) Lens (C) Retina (D) None of these
  - (iv) Potassium Permanganate is used for purifying drinking water, because  
(A) it is a sterilizing agent (B) It dissolves the impurities of water  
(C) it is a reducing agent (D) It is an oxidizing agent
  - (v) Which one of the following types of waves is used in a night vision apparatus?  
(A) Radio waves (B) Microwaves (C) Infra-red waves (D) None of the above
  - (vi) What is the longest bone in the human body?  
(A) Femur (B) Arm (C) Leg (D) None of the above
  - (vii) What divides the Earth into the Northern and the Southern Hemispheres?  
(A) Axis of rotation (B) Equator (C) North Pole (D) South Pole
  - (viii) The speed of sound is the fastest in:  
(A) Solids (B) Liquids (C) Gases (D) Vacuum
  - (ix) The weight of an object will be minimum when it is placed at:  
(A) The North Pole (B) The South Pole (C) The Equator (D) The center of the Earth
  - (x) The waves which are used by the TV remote control are:  
(A) Infrared waves (B) Radio waves (C) TV waves (D) None of these
  - (xi) Which of the following gas is used in the Refrigerator for cooling?  
(A) Methane (B) Ammonia (C) Nitrogen (D) None of these
  - (xii) Which of the planet moves fastest around the Sun?  
(A) Venus (B) Mercury (C) Jupiter (D) None of these
  - (xiii) Which blood group is rare in the human body?  
(A) O negative (B) AB positive (C) AB negative (D) None of these
  - (xiv) What is the reason for the brown color of rust?  
(A) Reduction (B) Oxidation (C) Both (A) & (B) (D) None of the above
  - (xv) Which of the following branch of zoology deals with the study of insects?  
(A) Ethology (B) Ornithology (C) Entomology (D) Herpetology
  - (xvi) What does an airbag, used for the safety of a car driver, contain?  
(A) Sodium bicarbonate (B) Sodium azide (C) Sodium nitrite (D) Sodium peroxide
  - (xvii) Oil rises in a wick of oil lamp because of a property of matter, is called \_\_\_\_\_.  
(A) Condensation (B) Capillary action (C) Respiration (D) None of these
  - (xviii) Smog is a case of:  
(A) Acid rain (B) Air pollution (C) Ozone layer thinning (D) None of these
  - (xix) The Earth receives energy from the sun through:  
(A) Conduction (B) Radiation (C) Diffusion (D) Convection
  - (xx) The blue colour of the clear sky is due to:  
(A) Diffraction of light (B) Dispersion of light (C) Reflection of light (D) Refraction of light