

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME

Section	(1) Logical Reasoning	(2) Science	(3) Achievers Section
No. of Questions	10	35	5
Marks per Ques.	1	1	3

SYLLABUS

Section – 1 : Verbal and Non-Verbal Reasoning.**Section – 2 :** Crop Production and Management, Microorganisms, Coal and Petroleum, Combustion and Flame, Conservation of Plants and Animals, Reproduction and Endocrine System, Force and Pressure, Friction, Sound, Chemical Effects of Electric Current, Some Natural Phenomena, Light.**Section – 3 :** Higher Order Thinking Questions - Syllabus as per Section – 2.

LOGICAL REASONING

1. Find the missing number, if same rule is followed in all the three figures.

7	12	5	16	8	12
21		20		?	

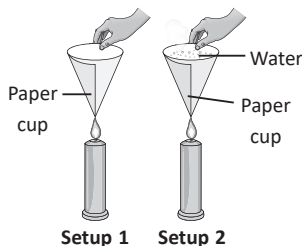
- (A) 40 (B) 32 (C) 24 (D) 16
2. In a playground, a girl walks 15 m towards West. She then turns left and walks 20 m. She then turns left again and walks 10 m. Finally, she turns left and walks 15 m. How far is she now from the starting point?
- (A) 5 m (B) $5\sqrt{2}$ m (C) 8 m (D) $2\sqrt{5}$ m
3. How many such numbers are there in the given arrangement each of which is immediately preceded by an odd number but not immediately followed by a prime number?

2, 3, 5, 7, 8, 9, 3, 6, 2, 4, 7, 6, 9, 8, 3, 5, 2, 2, 9

- (A) One (B) Two (C) Three (D) More than three

SCIENCE

4. While demonstrating an activity, the science teacher set up the experiment as shown in the given figure. Which of the following represents the incorrect observation?
- (A) Paper cup burns in setup 1.
 (B) Temperature of water rises in setup 2.
 (C) Paper cup absorbs heat from water in setup 2.
 (D) Ignition temperature of paper cup is not reached in setup 2.



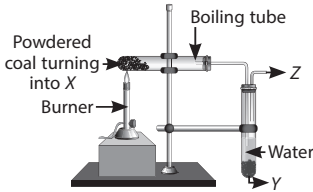
5. Read the given statements and select the correct option.

Statement 1 : Kinetic friction is independent of the area of contact and depends on the material.

Statement 2 : The limiting value of static friction depends on the area of contact and is independent of material.

- (A) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.
(B) Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.
(C) Statement 1 is true but statement 2 is false.
(D) Both statements 1 and 2 are false.
6. Which of the following statements are correct?
(i) When sound travels from air to water, it bends away from the normal.
(ii) A trumpet is blown harder resulting in a louder sound with a lower pitch. This implies that both the amplitude of the sound wave and the wavelength are increasing.
(iii) On arranging speed of sound in steel, water and air in the respective order and proceeding from last to first, represents the descending order of the speed of sound.
(A) (i) and (ii) only (B) (i) and (iii) only (C) (ii) and (iii) only (D) (i), (ii) and (iii)
7. *Gelidium* is a _____ algae.
(A) Red (B) Green (C) Brown (D) Purple
8. Which of the following options correctly represents the path taken by male gamete during fertilisation in humans?
(i) Urethra (ii) Vagina (iii) Oviduct
(iv) Testis (v) Sperm duct
(A) (iv) → (v) → (i) → (ii) → (iii) (B) (v) → (iv) → (iii) → (i) → (ii)
(C) (iv) → (i) → (ii) → (iii) → (v) (D) (iv) → (i) → (iii) → (ii) → (v)

ACHIEVERS SECTION

9. Observe the given figure carefully and select the correct statement from the following.
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- (A) Y is a tough, porous and black substance which is used in the extraction of many metals.
(B) Z contains methane, hydrogen, carbon monoxide and some other gases and is used in the production of naphthalene balls.
(C) X is an almost pure form of carbon and Z was used for street lighting for the first time in London in 1810.
(D) X is a mixture of about 200 substances and the products obtained from it are used as starting materials for manufacturing dyes, drugs, paints, etc.
10. Read the given paragraphs where few words have been italicised and select the incorrect statement regarding them.
Thyroid gland secretes the hormone *parathormone* that controls the metabolism of the body. Its *hypersecretion* in human body leads to *simple goitre*.
Parathyroid gland secretes a hormone *inhibin* which regulates the *calcium* and phosphate balance in the blood. *Melatonin* hormone is secreted by *pituitary* gland and it promotes sleep in our body.
(A) *Thyroid* should not be changed whereas *parathormone* should be replaced with *thyroxine* as it is mentioned incorrectly.
(B) *Hypersecretion* must not be changed whereas *simple goitre* must be changed to *diabetes* as it is mentioned incorrectly.
(C) *Inhibin* must be changed to *parathormone* whereas *calcium* must not be changed as it is mentioned correctly.
(D) *Melatonin* must not be changed as it is mentioned correctly whereas *pituitary* must be changed to *pineal*.

ANSWER KEY

1. (C) 2. (B) 3. (D) 4. (C) 5. (C) 6. (A) 7. (A) 8. (A) 9. (C) 10. (B)