INDIAN SCHOOL AL WADI AL KABIR

POST MID TERM EXAMINATION

Class IX Science
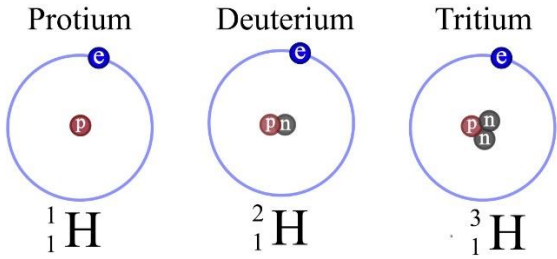
Time: 90 Minutes   **Maximum Marks: 40**

General Instructions:

(i)   *The question paper comprises four sections A, B, C and D. There are 40 questions in the question paper. All questions are compulsory.*

(ii) *Section–A - question no. 1 to 14 are multiple choice questions (MCQs), carrying one mark each.*

(iii) *Section–B - question no. 15 to 22 are assertion - reason type questions, carrying one mark each.*

(iv) *Section–C - question no. 23 to 25 are numerical based questions, carrying 1 mark each.*

(v)   *Section–D – question no. - 26 to 40 are case study based questions carrying 1 mark each.*

SECTION-A-MULTIPLE CHOICE QUESTIONS	
1 An object of mass 2kg is sliding with a constant velocity of 4 m/s on a frictionless horizontal table. The force required to keep the object moving with the same velocity is (a) 32 N (b) 0 N (c) 2 N (d) 8 N	1
2 For a given amount of applied force, when mass of the body is doubled, its acceleration becomes (a) double (b) four times (c) half (d) one fourth	1
3 A fielder in the ground gradually pull his hands backwards with the ball, while catching a fast-moving cricket ball. This is in accordance with a) According to Newton's first law of motion b) According to Newton's second law of motion c) According to Newton's third law of motion d) According to Newton's universal law of gravitation.	1

4	Which of the following properties is not the characteristic of colloidal particles?
	    (a) Particles are uniformly distributed throughout the solution.
	    (b) Particles can be seen with naked eyes.
	    (c) Particles do not settle down when left undisturbed.
	    (d) Particles scatter the beam of visible light.
		1

5	An atom of phosphorus is represented as $^{31}_{15}P$. The number of protons, neutrons and electrons in the atom of phosphorus are respectively:
	    (a) 15, 31, 15
	    (b) 15, 15, 16
	    (c) 15, 31, 16
	    (d) 15, 16, 15
		1

6	Study the below diagram and select the correct statement.
	
	    (a) Isotopes have same number of neutrons and protons
	    (b) Isotopes have same number of electrons and neutrons.
	    (c) Isotopes have same mass numbers and different atomic numbers.
	    (d) Isotopes have same atomic number and different mass numbers.
		1

7	Nitrogen and hydrogen combine in the ratio of 14:3 by mass to form ammonia. What mass of hydrogen gas would be required to react completely with 42g of nitrogen gas?
	    (a) 42g
	    (b) 12g
	    (c) 9g
	    (d) 24g	

8	Select the heterogeneous mixture out of the following.
	     (a) Air
	     (b) Common salt in water
	     (c) Chalk powder in water
	     (d) Sugar in water	

9	Ravi is suffering from typhoid. Doctor has prescribed him to take antibiotics for few days. How will antibiotics help Ravi in curing his disease? (a) They react with virus and eliminate them within 2 days. (b)They reduce the growth of bacteria by altering our body system. (c)They are consumed by bacteria that harms their cell function. (d)They block the bacterial synthesis pathway without affecting our own.	1

10	Making anti-viral drugs is more difficult than making anti-bacterial medicines because:
	  (i) Viruses do not make use of host machinery.
	 (ii) The cost of making anti-viral medicines are very high.
	(iii) Viruses have very few biochemical mechanisms of their own.
	(iv)Viruses does not have a protein coat.
	Choose the correct option among the following:
	
	     (a) (i) and (iv)
	     (b) only (iii)
	     (c) only (ii)
	     (d) (i) and (iii)
		1

11	Which option correctly classifies a chronic disease? (a)It does not last for a long time. (b)It is incurable. (c)It can last for a long time. (d)It causes no harm to the body organs.	1
12	Match the diseases in column I with causative organisms in column II.	1

Column I		Column II	
A.	Malaria	p.	Bacteria
B.	Tuberculosis	q.	Virus
C.	AIDS	r.	Protozoa

	(a) A— p, B — q, C— r. (b) A— r, B — p, C— q. (c) A— q, B— p, C— r. (d)A— r, B — q, C— p.	
13	How can a physician pinpoint or identify a disease after knowing some common symptoms of a patient? (a) By prescribing medications to the patient. (b) By admitting the patient into the hospital. (c) By confirming through laboratory tests. (d) By keeping the patient under observation.	
14	The severity of the disease manifestation depends upon: (a) The number of microbes causing the disease. (b) The nutrition we have. (c) The strength of the infections agent. (d) None of the given statements.	

SECTION-B-ASSERTION-REASONING

Question No. 11 to 13 consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true and R is not the correct explanation of A.
(C) A is true but R is false
(D) A is False but R is true

15	Assertion(A): If the net external force on the body is zero, then its acceleration is zero. Reason(R): Acceleration does not depend on force.	1
16	Assertion(A): Weight of a body on earth is equal to the force with which the body is attracted towards the earth. Reason(R): Weight of a body is independent of the mass of the body.	
17	Assertion (A): A solution is a homogeneous mixture of two or more substances. Reason (R): A solution scatters a beam of light passing through it.	1
18	Assertion (A): Particles of solution cannot be seen with naked eye. Reason (R): In solution, particle size is less than 1nm.	

19	Assertion (A): We can increase the solubility of saturated solutions by raising temperature. Reason (R): Different solutes have different solubilities at the same temperature.	
20	Assertion(A): Peptic ulcer is a sore that occurs on the inner lining of the stomach. Reason (R): Sedentary lifestyle is the major cause of such ulcers.	1
21	Assertion (A): Our surrounding area should be free of stagnant water. Reason(R): Stagnant water is the breeding ground for many vectors such as mosquitoes which transmits several diseases.	
22	Assertion (A): We should always cover our nose while sneezing. Reason (R): The cholera causing microbes will enter new hosts through the droplets of air.	
	SECTION-C-NUMERICAL BASED	
23	SI unit of work and force are a) Newton and Erg b) Newton and Joule c) Dyne and Joule d) Joule and Newton	1
24	A bullet of mass 0.2kg is fired from a gun of mass 10 kg with a velocity of 100 m/s. Calculate the velocity of recoil. a) -3m/s b) 4m/s c) 5m/s d) - 2m/s	1
25	A car weighing 1600 kg moving with a velocity of 30 m/s retards uniformly coming to rest in 20 seconds. Calculate the acceleration of the car. a) -1.5m/s^2 b) -3m/s^2 c) 1.5m/s^2 d) 2m/s^2	1

	SECTION-D-CASE STUDY BASED	
	As you travel along the earth's surface there is a change in your weight. Rohit buys gold from the poles and tries to sell it on a place at the equator. The customer is not agreeing with the weight of the gold. He argues that there is difference between the actual weight and the weight proposed by Rohit. Answer the questions given below based on the paragraph above	
26	Where is the weight of an object more, at the poles or at the equator? Why? a) Weight will be more at the equator as acceleration due to gravity is inversely proportional to square of the radius of earth. b) Weight will be more at the poles as acceleration due to gravity is directly proportional to square of the radius of earth. c) Weight will be more at the equator as acceleration due to gravity is directly proportional to square of the radius of earth. d) Weight will be more at the poles as acceleration due to gravity is inversely proportional to square of the radius of earth.	1
27	Mona's weight is 600N on the earth. What will be her weight on the surface of moon? a) 200 N b) 150 N c) 100N d) 60 N	1
28	A body weighs 300N on the surface of earth. Find its weight on a planet whose mass is $1/9^{th}$ the mass of earth and radius half of earth. (Take g on earth as = $10m/s^2$) a) 300 N b) 133.3 N c) 153.3N d) 60 N	1
29	What is the weight of an object at the centre of the earth? a) 6400kg b) zero c) 3200 kg d) Infinite	1
30	Which is the correct statement? a) Weight is a vector quantity and mass is a scalar quantity. b) Weight is a scalar quantity and mass is a vector quantity.	1

	c) Weight and mass are measured by the same instrument. d) Weight and mass do not change from place to place.	
	The arrangement of electrons in the various shells (or energy levels) of an atom is known as electronic configuration of the element. In other words, electronic configuration is the distribution of electrons in various shells of an atom such as K shell, L shell, M shell etc. In order to write the electronic configuration of an element, we should know the number of electrons in an atom of the element and the maximum number of electrons that can be accommodated in different shells of the atom.	
31	Which of the following is the correct electronic configuration of Chlorine (17)? (a) 2,8,1 (b) 2,8,7 (c) 8,2,7 (d) 2,7,8	1
32	The number of electrons in the outermost L shell of an atom is 2. The valency of the atom is: (a) 3 (b) 4 (c) 2 (d) 6	1
33	The atomic number of the element which contains 16 protons, 16 neutrons and 16 electrons is: (a) 12 (b) 32 (c) 16 (d) 19	1
34	Which of the following electronic configurations is wrong? (a) Li (3) = 2, 1 (b) O (8) = 2, 6 (c) S (16) = 2, 6, 8 (d) P (15) = 2, 8, 5	
35	An atom of an element has 6 electrons in the L shell. The atomic number of this element is: - (a) 10	

	(b) 8 (c) 18 (d) 16	
	Immunisation is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines are substances that stimulate the body's own immune system to produce antibodies which protect the person against subsequent infection or disease and this ability of an organism to resist a particular infection or toxin by the action of specific antibodies is called immunity. Vaccines induce a specific immune response in the body. This response also produces memory cells which persist in the body even in the absence of pathogen. If the pathogen attacks the body again, the immune system with the help of memory cells recognise it and destroy it before it causes the disease. The process of immunisation has proved advantageous in preventing many infectious diseases. Today, vaccines are available against smallpox, measles, tetanus, polio, etc. Pulse polio immunisation programme (PPIP) forms the largest single day health project. PPIP aims to create immunity in the children below the age group of five against polio.	

36	Definition of health includes:
	   a) Physical health only.
	   b) Mental health only.
	   c) Social health only.
	   d) All the above
	   e) None of these.
		1

37	After vaccination, the body produces:
	   a) Antibodies
	   b) Pathogens
	   c) Weakness
	   d) Toxins
		1

38	Children are vaccinated through pulse polio programme because:
	   a) Vaccination strengthens the polio causing microbe.
	   b) It prevents the entry of polio causing microbes.
	   c) It creates immunity against polio in the body.
	   d) All the above.
		1

39	The process of developing immune power in the body to fight against the diseases is:	

	a) Immunisation b) Inflammation c) Injection d) None of the given options.	
40	Which of the following statements is correct about vaccination? a) Develops resistance against the attack of a particular disease. b) Can control every disease. c) Kills all disease causing microbes in the area. d) Involves the use of antibiotics.	

ANSWER KEY-POST MID TERM EXAMINATION

CLASS-9-SCIENCE

QN.NO	ANSWERS	MARKS
1	(b) 0 N	1
2	(c) half	1
3	(b) According to Newton's second law of motion.	1
4	(b) Particles can be seen with naked eyes.	1
5	(d) 15, 16, 15	1
6	(d) Isotopes have same atomic number and different mass numbers.	1
7	(c)9g	1
8	(c) Chalk powder in water	1
9	(d)They block the bacterial synthesis pathway without affecting our own.	1
10	(b) only (iii)	1
11	(c)It can last for a long time.	1
12	(b) A— r, B — p, C— q.	1
13	(c) By conforming through laboratory tests.	1
14.	(a) The number of microbes causing the disease.	1
15	(c) Assertion is true but reason is false.	1
16	(c) Assertion is true but reason is false.	1
17	(c) A is true but R is false.	1
18	(a)Both A and R are true and R is the correct explanation of A	1
19	(b)Both A and R are true, but R is not the correct explanation of A	1
20	(c) A is true and R is false.	1
21	(a) Both A and R are true and R is the correct explanation of assertion.	1
22	(c) A is true and R is false.	1
23	(d) Joule and Newton	1
24	(d) -2m/s	1
25	(a) -1.5m/s^2	1

26	(d) Weight will be more at the poles as acceleration due to gravity is inversely proportional to square of the radius of earth.	1
27	(c) 100N	1
28	(b)133.3N	1
29	(b) zero	1
30	(a) Weight is a vector quantity and mass is a scalar quantity.	1
31	(b)2,8,7	1
32	(c)2	1
33	(c)16	1
34	(c) S (16) = 2, 6, 8	1
35	(b) 8	1
36	(d) All the above	1
37	(a) Antibodies	1
38	(c)It creates immunity against polio in the body.	1
39	(a) Immunisation	1
40	(a) Develops resistance against the attack of a particular disease.	1