



Date: 23/02/22 ANNUAL EXAMINATION (2021-22)
GRADE: IX SCIENCE

Max marks: 40
Time: 2hours

General Instructions:

1. This question paper contains FOUR sections.
2. Section A contains 20 questions. Each carry one mark.
3. Section B contains 3 questions. Each carry two marks.
4. Section C contains 2 questions. Each carry three marks.
5. Section D contains two case-based questions. Each carry 4 marks.

Qn. No	SECTION-A
1	The weight of a man on the moon if he weighs 54N on the earth is a) 5.4N b) 54N c) 9N d) 324N
2	When a body is dropped from a certain height, acceleration due to gravity is taken as a) $+9.8\text{m/s}^2$ b) -9.8m/s^2 c) 0 d) $+9.8\text{m/s}$
3	When the distance between two objects is tripled, the force of gravitation becomes _____ of its initial value. a) 1/4th b) 1/7th c) 1/8th d) 1/9th
4	When a mango falls from a mango tree then a) only the Earth attracts the mango. b) only the mango attracts the Earth. c) both the Earth and the mango attract each other d) both the Earth and the mango repel each other
5	The work done on an object does not depend on the

	<p>a) displacement b) force applied c) angle between force and displacement d) initial velocity of the object</p>
6	<p>Water stored in a dam possesses</p> <p>a) kinetic energy b) potential energy c) electrical energy d) no energy</p>
7	<p>If the velocity of the moving body is doubled, its kinetic energy becomes</p> <p>a) one fourth b) four times c) halved d) zero</p>
8	<p>The rate of doing work is ____</p> <p>a) kinetic energy b) energy c) power d) work rate</p>
	<p>For question numbers 9 and 10, two statements are given - one labelled Assertion (A) and the other labelled Reason (R).</p> <p>Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below.</p> <p>(i) Both (A)and(R) are true and (R)is the correct explanation of the assertion (A).</p> <p>(ii) Both (A)and(R) are true, but(R)is not the correct explanation of the assertion (A).</p> <p>(iii) (A) is true, but (R) is false.</p> <p>(iv) (A) is false, but (R) is true.</p>
9	<p>Assertion:In a chemical reaction ,the total mass remains conserved. Reason:Atoms are indivisible.</p>
10	<p>Assertion:If we get a bacterial infection along with viral flu,taking antibiotics will help. Reason:Antibiotics will work against the virus.</p>
11	<p>Which among the given symptoms is not related to the brain being the target organ?</p> <p>a)Vomiting b)Headache</p>

	<p>c) Fits d) Cough</p>
12	<p>In which of the following cases will the general health be affected drastically:</p> <p>a) Diabetes b) Chicken pox c) Acne d) Fever</p>
13	<p>Which of the given statements is incorrect? (i) Symptom directed treatment will not make the infecting agent go away. (ii) Penicillin helps in specific prevention of diseases. (iii) The immune system does not get affected by nourishment or type of food consumed. (iv) Immune system determines the number of microbes surviving in the body.</p> <p>a) (i) and (ii) b) (ii) and (iii) c) (i) and (iv) d) (ii) and (iv)</p>
14	<p>The number of moles present in 28g of nitrogen gas is:</p> <p>a) 1 b) 2 c) 0.5 d) 4</p>
15	<p>The isotope used in treatment of cancer is:</p> <p>a) Carbon 12 b) Iodine 131 c) Cobalt 60 d) Iodine 123</p>
16	<p>Argon and calcium have similar physical properties as they have:</p> <p>a) Same atomic number b) Same mass number c) same number of neutrons d) same number of electrons</p>
17	<p>If the atomic number of an atom is 8, how many electrons are present in it?</p> <p>a) 8 b) 16 c) 4 d) 0</p>
18	<p>Which of the following atoms will not form cations? X - Atomic number - 12 Y - Atomic number - 16 Z - Atomic number - 18</p>

- a) X ,Y
- b) Y,Z
- c) X,Z
- d) Only Y

19 Which among the given ions is a polyatomic cation?

- a)Carbonate
- b)Ammonium
- c)Sulphate
- d)Hydroxide

20 The unit of molar mass is:

- a)grams
- b)Unified mass
- c)amu
- d)micron

SECTION B

21 State any two differences between cation and anion.

22 Give the chemical formula of sodium carbonate and calculate its molecular mass.(Atomic masses of: sodium is 23 u ,carbon is 12u and oxygen is 16u)

23 Prevention is better than cure. Justify, giving any two reasons.

SECTION C

- 24
- a) State Universal Law of Gravitation.
 - b) Derive an expression for F
 - c) A stone is thrown vertically upward with an initial velocity of 40m/s. Calculate the total distance covered by the stone on reaching the ground. Take $g = 10\text{m/s}^2$

25 The table given shows the nuclei of 3 different atoms.

Atom	Number of protons	Number of neutrons
X	5	6
Y	6	6
Z	6	7

- i)Which of the given atoms are isotopes?
- ii)Which atom has the highest mass number?

	iii) Give the electron distribution of the atom X.
	SECTION D
	<p>Raju and Ramu are so excited to calculate the electricity bill in the month of January 2022 of their father's cafeteria. In their father's cafeteria the following devices are used as specified per day.</p> <p>a) 8 tube lights of 50W each for 5 hours. b) 3 bulbs of 40 W each for 6 hours. c) a TV of 120W for 6 hours. d) 8 fans of 16W each for 6 hours.</p> <p>The rate of electricity per unit is Rs. 2.50</p> <p>Answer the following questions using the data given.</p>
26	<p>How much will the electricity bill be in January?</p> <p>a) Rs. 1050 b) Rs. 553 c) Rs. 327 d) Rs. 725</p>
27	<p>The commercial unit of energy is</p> <p>a) Watt b) Watt- hour c) Kilowatt Hour d) kilowatt</p>
28	<p>1 kwh = _____ joules</p> <p>a) 1000J b) 3600J c) 3600000 J d) 7200000 J</p>
29	<p>SI unit of power is</p> <p>a) Joules b) Watts/second c) watt hour d) watts</p>
	<p>Answer question numbers 30 – 33 on the basis of your understanding of the following paragraph and the related studied concepts:</p> <p>About 1.1 million people in the U.S. are living with HIV, and more than 38,000 new infections happen every year. HIV stands for Human Immunodeficiency Virus. HIV damages your immune system, and so the patient gets really sick and even dies from infections that the body could normally fight off. HIV causes AIDS. There are microbial diseases such as</p>

	<p>syphilis, warts etc. that are transmitted by sexual contact. HIV can also be passed to babies during pregnancy, birth, or breastfeeding. HIV isn't spread through saliva, so you cannot get HIV from sharing food or drinks, or using the same fork or spoon. HIV is also not spread through hugging, holding hands, coughing, or sneezing. A long time ago, some people got HIV from infected blood transfusions. Doctors, hospitals, and blood donation centers don't use needles more than once, and donated blood is tested for HIV and other infections. Once you have AIDS, the virus stays in your body for life. There's no cure for AIDS, but medicines can help you stay healthy.</p>
30	<p>Which of the following is not a sexually transmitted disease?</p> <p>a)AIDS b)Syphilis c)HIV d)Warts</p>
31	<p>HIV infection through blood transfusion is minimised now as:</p> <p>a)Blood is being donated only by healthy people. b)Donated blood is tested for HIV and infections. c)Donated blood is purified before transfusion. d)Both a and c.</p>
32	<p>Which of the following statements is incorrect in relation to AIDS:</p> <p>a)It is transmitted through sharing of needles . b)It is transmitted from mother to child through breastfeeding. c) AIDS is curable. d)All of the above</p>
33	<p>The immediate cause of AIDS is:</p> <p>a)HPV b)HIV c)Blood transfusion d)Sexual contact</p>