KENDRIYA VIDYALAYA SANGATHAN, RAIPUR REGION
SAMPLE QUESTION PAPER SET- 3
Class - IX
SCIENCE (086)
TERM II (2021-22)

**Max. Marks: 40**   **Time allowed: 2 hours**

General Instructions:

i)   All questions are compulsory.

ii)   The question paper has three sections and 15 questions. All questions are compulsory

iii)   Section–A has 7 questions of 2 marks each; Section–B has 6 questions of 3 marks each; and Section–C has 2 case based questions of 4 marks each.

iv)   Internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.

SECTION A(2 MARKS)

Q1. a) Mention one postulate of Daltons Atomic theory that explains Law of constant proportion.

b) What is the atomicity of Argon and Graphite(Carbon).

Q2. For chlorine, Z=17, A= 35. Give the number of electrons and neutrons in :

a) Chlorine atom   b) Chloride ion.

Q3. Name the elements which have the following electronic configuration:

a) 2.8,3   b) 2,8,6

Q4. Find out the valency of the atoms represented by the Fig. 4.3 (a) and (b)

(a)   (b)

Fig. 4.3
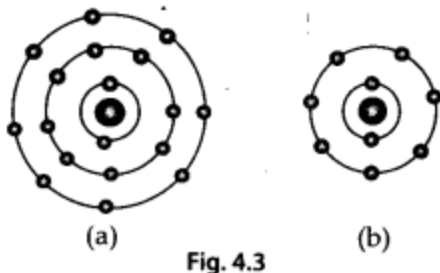
Q5.(i) Which of these is an acute ailment and why –tuberculosis ,cancer ,diarrhea ,elephantiasis ?

(ii) If penicillin is given to a patient suffering from jaundice, will it have any effect? Give reason.

Or

When is a disease categorized as a communicable disease? Give two example .

Q6. A body weighing 40 kg makes a high jump of 1.5m

(I) What is his kinetic energy at the highest point?

(II) What is his potential energy at the highest point? (g = 10 m/s 2)

Q7. Write formula for kinetic energy of a particle of mass m moving with velocity v.

The kinetic energy of an object of mass, m moving with a velocity of 5 m s^{-1} is 25 J. What will be its kinetic energy when its velocity is doubled?

SECTION –B (3 MARKS)

Q8.Calculate the mass of following:

a) 0.5 mole of O_2 gas

b) 0.5 mole of O atoms

c) 3.011 X 10^{23} atoms of O.

OR

Write the chemical formula of following compounds and also calculate their formula unit mass:

a) Caustic soda   b) Common salt   c) Baking Soda

Q9. Give reason for the following:
a) Isotopes of an elements are chemically similar.
b) An atom is electrically neutral.
c) Noble gases shoe least reactivity.

Q10 (a) who discovered 'vaccine' for the first time? Name two diseases which can be prevented by using vaccines.
(b)What do you mean by immunization?

OR

(a) What will be the symptoms when microbes attack the brain?
(b) Write the principles of treatment that are generally followed by a doctor to treat infectious   diseases?
(c)Which bacterium causes peptic ulcer? Who discovered the pathogen first time?
Q11. State differences between acute and chronic diseases.

Q12. (a) How does the force of gravitation between two objects change when the distance between them is reduced to half ?
    (b) Gravitational force acts on all objects in proportion to their masses. Why then, a heavy object does not fall faster than a light object?
(c) Write the Value of Universal gravitational constant.

Q13. (a) An object weighs 10 N when measured on the surface of the earth. What would be its weight when measured on the surface of the moon?
    (b) . If the moon attracts the earth, why does the earth not move towards the moon?

SECTION –C (4 MARKS)

Q14. An atom has a neutral charge and an equal number of protons and electrons. Electrons arrange themselves in layers or rings called "shells." One shell holds up to 8 electrons. An atom can have many shells, depending on how many electrons it has. Shells always fill up all the way to 8 before adding a new shell. The outermost shell may have fewer than 8 electrons. The electrons in the outermost shell are known as valence electrons. If an atom LOSES electrons, its charge becomes POSITIVE and it's called a cation.
If an atom GAINS electrons, its charge becomes NEGATIVE and it's called an anion.
a) Why Sodium ion, magnesium ion, oxide ion and Neon atom have different atomic number but same electron arrangement of 2, 8.
b) Name the atomic species which contains 11 protons, 10 electrons and 12 neutrons.
c) The atomic numbers of six elements A,B,C,D ,E and F are given below

Elements	A	B	C	D	E	F
Atomic number	9	19	18	13	12	16

i) Which atom will form an ion having 2 units negative charge?
ii) Which atom will not form an ion?

OR

c) The atomic number of an element X is 12.
i) What must an atom X do to attain the nearest inert gas electron configuration?
ii) Which inert gas is nearest to X?

Q 15 . Work is the process of energy transfer to the motion of an object via application of a force, often represented as the product of force sod displacement. A force is said to do positive work if the force has a component in the direction of the displacement of the point of application.

A baseball pitcher does positive work on the ball by applying a force to it over the distance it moves while in his grip.

Q.1 A person is running on a circular track of radius 50m. Calculate the work done by the man after completing 5
rounds of this track? Justify your answer, also
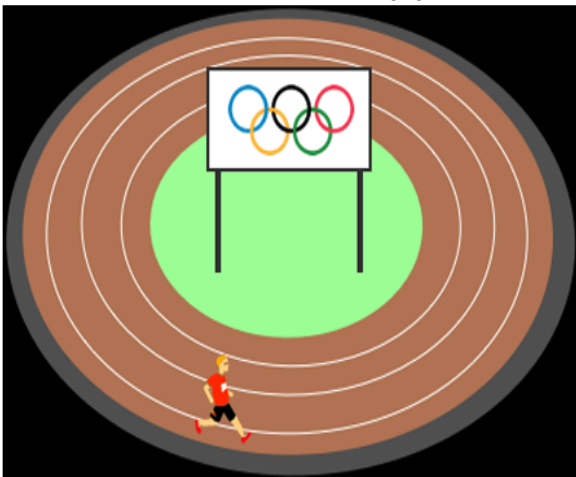
Q.2 A person carry 60kg of suitcase on his head and moves 5m ahead . What will be the work done by the gravity? (Value of g = 10 m/s^2)

Q.3 As per the image given, a man walks on an inclined plane and a staircase up to same height . Compare the work done in both cases. Justify your answer also.
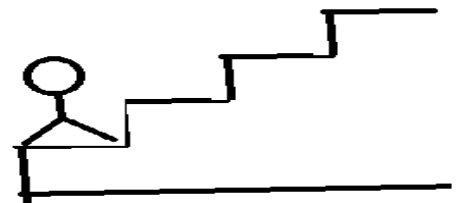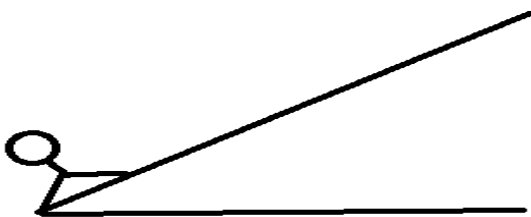
Q.4 Give at-least one example of all types of work - positive, and zero work.

OR

Give at-least one example of all types of work - negative and zero work.

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