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XAKIRUO

SUMMATIVE ASSESSMENT - II (2014-15) SCIENCE Class - IX

Time allowed: 3 hours

Maximum Marks: 90

General Instructions :

- (i) The question paper comprises of three Sections, A, B and C. You are to attempt all the sections.
- (ii) All questions are compulsory.
- (iii) There is no choice in any of the questions.
- (iv) All questions of Section-A, Section-B and Section-C are to be attempted separately.
- (v) Question numbers 1 to 3 in Section-A are one mark questions. These are to be answered in one word or in one sentence.
- (vi) Question numbers 4 and 5 in Section-A are two marks questions. These are to be answered in about 30 words each.
- (vii) Question numbers 6 to 16 in Section-A are three marks questions. These are to be answered in about 50 words each.
- (viii) Question numbers 17 to 21 in Section-A are five marks questions. These are to be answered in about 70 words each.
- (ix) Section B has 3 OTBA questions. Question number 22 is two marks, Question number 23 is three marks and Question number 24 is five marks question.
- (x) Question numbers 25 to 33 in Section-C are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.
- (xi) Question numbers 34 to 36 in section C are two marks questions based on practical skills. These are to be answered in about 30 words each.

SECTION-A

- 1/ Who established the laws of chemical combination ? 1
- 2/ Write the name of the sub-atomic particle discovered by J. Chadwick. What type of charge occurs on this particle ? 1
- 3/ Name two groups of micro-organisms from which antibiotics could be extracted. 1
- 2/4/ Define pitch of sound. How is it related to frequency? 2
- 2/5/ Name any two forms of energy. Define the SI unit of energy. 2
- 2/6/ (a) Define atomicity. 3
(b) Name the elements whose atomicity is :
(i) Tetraatomic (ii) Monoatomic

(c) State the number of atoms present in each of the following chemical species :

- (i) CO_3^{2-} (ii) HNO_3

Complete the following table :

Atomic number	Mass number	No. of neutron	No. of protons	No. of electrons	Name of the atomic species
-	24	12	12	-	-
17	-	18	-	-	Chlorine
-	-	-	-	-	-

(a) Define the following terms with one example each.

- (i) Isotope (ii) Isobar

(b) Name the elements whose isotopes are used in :

- (i) Nuclear Reactor (ii) Treatment of cancer

9 Leech, Nereis, Prawn and scorpion - all have segmented body organization. Can they be placed in the same group ? State yes/no giving reasons.

10 Tabulate three differences between acute and chronic diseases.

11 Associate the following features with groups in which they first appeared.

- (a) Vascular tissues
(b) Notochord
(c) Seeds inside fruits

12 A labourer whose own mass is 50 kg carries a load of an additional 60 kg on his head to the top of a building 15 m high. Find the total work done by him. Also find the work done by him if he carries another additional block of mass 10 kg to the same height. (take $g = 10 \text{ m/s}^2$)

- 13 (a) Define thrust and pressure.
(b) What is meant by 1 pascal and 1 newton ?

14 Waves of higher frequencies are used to measure depth of the sea.

- (a) Name these waves.
(b) Give the frequency of these waves.
(c) Give one more use of these waves.

15 Differentiate between density and relative density ? What is the density of silver given that its relative density is 10.3 ?

- 16 Vikas and Raj were feeling bored then suddenly Vikas had an idea and he asked Raj to prepare a toy telephone set. They made the set with two plastic glasses and a thread. They stood apart from each other and talked to each other. 3
- (a) How sound travels from one end of thread to another? Explain in brief?
(b) How is sound produced? Can sound travel through Vacuum?
(c) What quality is exhibited by Vikas and Raj?

- 17 (a) Name the international organization who approves names of elements. 5
(b) Give an example with explanation to show that the Law of conservation of mass applies to physical changes also.

- 18 Construct a table to differentiate between Monera and Fungi on the following grounds - 5
- (a) Body organization
(b) Prokaryotic/Eukaryotic
(c) Cell Wall
(d) Mode of nutrition
- Name an organism belonging to each of the two kingdoms.

- 19 A man suffers from fever at irregular intervals caused after mosquito bite. It was observed that his locality has a number of puddle with stagnant water. 5
- (a) Identify the disease which he is suffering from.
(b) Name the causative organism of the disease.
(c) Suggest any three measures that can be taken to prevent the spread of the disease.

- 20 (a) Establish a relationship between speed of sound, its frequency and wavelength. 5
(b) If the velocity of sound in air is 340 m/sec. Find :
(i) frequency when wavelength is 0.65 m
(ii) wavelength when frequency is 400 Hz.

- 21 Calculate the electricity bill amount for a month of 30 days, if the following devices are used as specified : 5
- (a) 2 bulbs of 40 W for 6 hours.
(b) 2 tube lights of 50 W for 8 hours.
(c) A TV of 120 W for 6 hours.
Given the cost of electricity is ₹ 2.50 per unit.

SECTION - B (OTBA)

(* Please ensure that open text of the given theme is supplied with this question paper.)

Theme : Understanding the Environment of Mars

- 22 Justify why biosphere of Mars is always questionable for sustenance of life. 2
- 23 It is found that seasons in Southern hemisphere are more extreme as compared to the seasons in Northern hemisphere. What can be the reason for this ? 3
- 24 In a recently released movie "Interstellar", it was shown that earth is degrading and it is having a lot of dust storms. What do you think of this situation. Is Earth becoming like Mars ? Why or why not ? 5

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Section - C

- 25 If the reflector made of metal sheet in the experiment of verification of laws of reflection of sound is replaced by a cardboard then : 1
- (a) no change will occur and reflection takes place as before
(b) sound will not be reflected
(c) sound heard will be minimum
(d) no sound will be heard due to absorption by cardboard
- 26 A force of 5×10^5 N exerted by a truck produces a pressure of 25×10^5 Pa on the ground. The area of contact of the tyres with ground is : 1
- (a) 0.5m^2 (b) 0.75m^2 (c) 0.2m^2 (d) 5m^2
- 27 A wave passes from one medium to another. Name a property of wave which remains constant. 1
- (a) Frequency (b) Wavelength
(c) Amplitude (d) Loudness
- 28 In Angiosperms the female reproductive part is represented by : 1
- (a) Calyx (b) Corolla
(c) Androecium (d) Gynaecium
Gynaeceum

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- 29 While verifying the law of conservation of mass a student carried out the reaction between sodium chloride and silver nitrate in a conical flask. Which of the following will appear as a precipitate? 1
- (a) Silver Chloride (b) Sodium Chloride
(c) Sodium Nitrate (d) Barium Chloride
- 30 5.3 g acetic acid combines with 6 g sodium carbonate to form 2.2 g sodium ethanoate, 0.9 g carbon di-oxide and some water. If the law of conservation of mass in a chemical reaction is true, then the mass of water produced will be : 1
- (a) 8.20 g (b) 8.02 g (c) 8.0 g (d) 0.8 g
- 31 Which of the following is a dicotyledonous plant : 1
- (a) onion (b) grass
(c) banana (d) mustard
- 32 Tap root system is found in which of the following plants : 1
- (a) Maize (b) Bamboo
(c) Grass (d) Pea
- 33 Which is the second stage in the life cycle of a mosquito? 1
- (a) Adult (b) Pupa
(c) Larva (d) Egg
- 34 In an experiment to find density why the measuring cylinder with less least count is preferred? When a solid block is fully immersed in water, how much will be the apparent loss in weight of the block? 2
- 35 If the weight of displaced water by an object weighing 50 N is 10 N, then find the buoyant force of water on the object. What will be the weight of object in water? 2
- 36 Give one function of gills in fishes. To which phylum do the do fishes belong? 2

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