SUMMATIVE ASSESSMENT-I, 2015-16

Class - IX SCIENCE

Time allowed: 3 hours (Maximum Marks: 90)

General Instructions:

1. This question paper comprises of two Sections A and B. You are to attempt both the sections.
2. All questions are compulsory
3. All questions of Section–A and all questions of Section–B are to be attempted separately.
4. Question number 1 to 3 in Section–A are one mark questions. These are to be answered in one word or in one sentence
5. Question number 4 to 6 in Section–A are two mark questions. These are to be answered in about 30 words each
6. Question number 7 to 18 in Section–A are three mark questions. These are to be answered in about 50 words each
7. Question number 19 to 24 in Section–A are five mark questions. These are to be answered in about 70 words each
8. Question number 25 to 33 in Section–B 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.
9. Question number 34 to 36 in Section–B are questions based on practical skills. Each question is of two marks.

SECTION - A

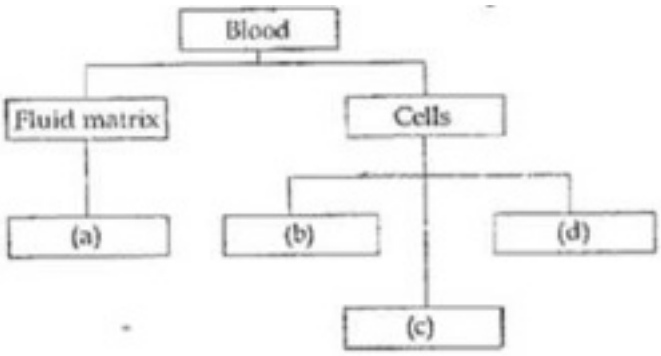
1. Identify the plastid which contains a pigment necessary for photosynthesis.

2. Out of the four physical quantities associated with the motion of an object viz, Force, Velocity, Acceleration and momentum which one remains constant for all bodies large or small, undergoing free fall?

3. Two balls of different masses are thrown vertically upwards with same velocity. Which one of them will rise to the greater height?

4. We feel cool after doing vigorous exercise. Why?

5. Mention the different components of blood in the following diagram?



6. Which Newton's law of Motion is applied in flight of a bird? Support your answer with suitable reason.

7. What do you understand by a colloidal solution? Why do they show Tyndall effect?

8. Explain any three factors which affect the rate of evaporation.

9. You are provided with a mixture of Iron filings and sulphur. Answer the following questions.
(a) Which technique can be used to separate the components of mixture?
(b) Name the gas which is produced when the mixture is treated with dilute sulphuric acid at room temperature?
(c) Write two properties of gas evolved in part (b).

10. Discuss the shape of the following cel organelles:

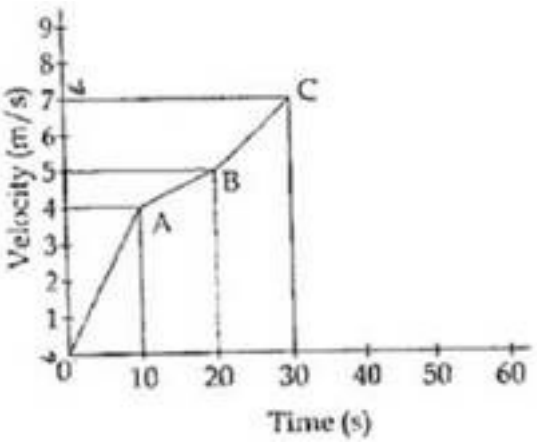
Jysosomes, mitochondria and Golgi apparatus.

11. Differentiate between the three types of muscular tissues.

12. State Newton's first law of motion. Why is it known as the law of inertia?

13. Calculate the gravitational force of earth acting on your friend of mass 60 kg, (Given mass of earth= 6 x10^{24} kg and radius of earth= 6.4 x10^{6} m, G= 6.7 x10^{-11} Nm^2kg^{2})

14. The velocity- time graph shown below represents the motion of a body: O_2



(a) During which interval of time, the body is moving with maximum acceleration?

(b) Calculate the average velocity for the entire journey,

15. A ball is thrown vertically upwards and returns to the thrower after 12 sec($g=9.8\ m/s^2$)find:

(i) The velocity with which it was thrown up

(ii) The maximum height it reaches.

(iii) Its position after 8 sec.-

16. When will you say a body is in:

(i) Uniform acceleration

(ii) Non-uniform acceleration?

Draw a velocity -time graph for each type of motion.

17. India is a county with three fourth of the population engaged in agriculture. Even though financial conditions of some famers do allow them to take higher level farming practices and improved agriculture technology, yet they are hesitant to use of HYV seeds with traits such as resistance to disease and pests, high quality that would result finally in higher yield. The Governments' Kisan channel solved all their apprehensions.

(i) What is meant by genetically modified crops?
(ii) What are the desired agronomic characters for fodder and cereal crops?
(iii) In your opinion what should be done so that the modern agriculture technology is adopted by most of the farmers?

18. (a) Name the crop which can be grown in combination to fish culture
(b) Mention the feeding zones of Catla, Rohu, Mrigals, common carp in.

19. Observe the following situations and identify the techniques associated with each:

(i) Milk is churned to separate cream from it.
(ii) A mixture of sand and water is separated.
(iii) Air is liquefied to separate liquid O_2.
(iv) By using filter paper, different colors present in a dye are separated.
(v) Mixture of ammonium chloride and sand is heated.

20. When a solid melts the temperature of the system does not change after the melting points is reached even when we continue to supply heat? Give reason
Define latent heat of vaporization. Which will cause more severe burns boiling water or steam and why?

21. Do all cells of our body look alike in terms of shape, size and structure? What similarities do they have? Illustrate by drawing diagrams of various cells present in human body.

22. State Newton's First Law of Motion- why is this law called law of inertia? Define the term inertia and state the relationship between mass and inertia? Explain why it is advised to tie any luggage kept on the roof of a moving vehicle with a rope.

23. (a) What is meant by uniform circular motion? Give its two examples.

(b) A train leaves New Delhi railway station at 09:00 AM and reaches Jaipur, which is at a distance of 260 km at 12:45 PM. The train reaches Alwar (at distance 150 km from New Delhi) at 11:30 AM and stops there for 15 minutes.

(i) What is the reference point for the motion of the train?
(ii) What is the average speed to the train between Alwar and Jaipur?

24. In a fresh water composite fish culture, mention the basis of selection of varieties of fishes. Name any four varieties of fishes selected along with their feeding zones. Write one advantage and one problem of composite fish culture.

SECTION – B

25. Samples of rice, potato, tea leaves and arhar dal were taken in four different test tubes A,B,C and D.A few drops of conc. hydrochloric acid were added after adding 2 ml of water in them you will observe pink colour which will confirm metanil yellow adulterant in sample of:

(a) Rice
(b) potato
(c) tea leaves
(d) arhar dal

26. Moksh wanted to observe starch granules in potato under a microscope. He tool a freshly out slice of a potato and pressed it on a slide. The stain that he should use to observe starch granules clearly is:

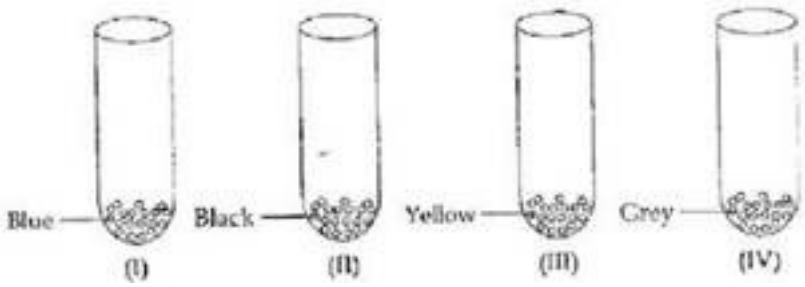
(a) Safranin
(b) acetocarmine
(c) methylene blue
(d) iodine

27. When iron filings and sulphur powder are heated strongly then name of the compound formed on heating is"

(a) Ferric sulphide
(b) Ferrous sulphide
(c) Mixture of iron and sulphur

(d) Mixture of ferric oxide and sulphur

28. Four test tubes contain different coloured solid components as shown in the given diagrams:



Which test tube contains Sulphur powder?

(a) (I)

(b) (II)

(c) (III)

(d) (iv)

29. Students were asked to study the reaction between barium chloride and sodium sulphate. Four different methods are given below:

	Procedure	Observations
(i)	Mixed powder of barium chloride and sodium sulphate	The colour of mixture changes to yellow
(ii)	Mixed solutions of barium chloride and sodium sulphate	Thick white precipitate is formed
(iii)	Added solution of barium chlpride to sodium sulphate powder	Solution becomes turbid
(iv)	Added solution of barium chloride to sodium sulphate sodium	No change is observed

The correct method is:

(a) (i) (b) (ii) (c) (iii) (d) (iv)

30. Which one of the following sets is the correct sequence for preparing a temporary mount of an onion peel?

(a) (i) take out the onion peel
(ii) keep the peel on the slide
(iii) add a drop of glycerin on it
(iv) add a few drops of safranin stain
(v) cover it with a cover slip

(b) (i) take out onion peel
(ii) keep the peel in water in a pertridish
(iii) add a few drops of safranin stain and transfer to the slide
(iv) add a drop of glycerin on it
(v) cover it with a cover slip

(c) (i) take out the onion peel
(ii) keep it on a slide and add safranin stain
(iii) transfer it to water in a pertridish
(iv) remove water and add glycerin
(v) cover it with a cover slip

(d) (i)take out onion peel
(ii) cover it with a cover slip
(iii) add water in a pertridish to clean it
(iv) add a drop of glycerin
(v) add a few drops of safranin stain

31. A figure depicting the parts of a neuron is given below. The correct identification of the labels 1,2 ,3 ,4 respectively is:

(a) dendrite, cytoplasm, nucleus, nerve fibre
(b) cilia, endoplasmic reticulum, nucleus, nerve fibre
(c) dendrite, cell body, nucleus, axon
(d) dendrite, cyton, nucleus, axon

32. Ammonium chloride sublimates on heating. It means that on heating ammonium chloride:

(a) First melts at its melting points and then changes in to a gas at its boiling point
(b) directly changes from solid to vapours without melting.
(c) loses its water of crystallization
(d) condenses from the gaseous state to the liquid state

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33. A student performed the experiment 'To establish relationship between weight of a rectangular wooden block lying on a horizontal surface and minimum force requires to just move it using a spring balance'. If the weight of the given wooden block is nearly 200g wt and three known weight of 100g wt each are to be successively places on the wooden block to take three more readings, then which one of the following spring balances, available in the laboratory would you select for the best results in the experiment? It is known that a force of 90g wt is required to just move the block on the surface.

(a) Range 0-100g wt; least count 1.0g wt
(b) Range 0-200g wt; least 2.0g wt
(c) Range 0-250g wt; least count 2.0g wt
(d) Range 0-500g wt; least count 5.0g wt

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34. You observe some suspended particles in the given solution. How would you determine experimentally the type of solution?

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35. Lost two important precautions which a student should take while determining the boiling point of water?

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36. Raman while doing an experiment to find out the percentage of water absorbed by raisins measured the mass of dry raisins as 50g. He soaked the raisins in water for four hours and again measured the mass as 80 g. Calculate the percentage of water absorbed by the raisins. He then placed swollen raisins in concentrated salt solution for four hours. What will he observe?