KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION – 32
SAMPLE PAPER 01 FOR SA – II (2016-17)

SUBJECT: SCIENCE

BLUE PRINT : SA-II CLASS IX

Unit/Topic	VSA/MCQ (1 mark)	Short answer (2 marks)	Short answer (3 marks)	Long answer (5 marks)	Total
Atoms and Molecules	3(3)	--	3(1)	--	**6(4)**
Structure of Atoms	1(1)	--	6(2)	5(1)	**12(4)**
Biological Diversity	5(5)	2(1)	3(1)	5(1)	**15(8)**
Health and Diseases	--	--	6(2)	5(1)	**11(3)**
Gravitation (Flotation)	1(1)	2(1)	6(2)	5(1)	**14(5)**
Work and Energy	--	4(2)	3(1)	5(1)	**12(4)**
Sound	2(2)	2(1)	6(2)	--	**10(5)**
Natural Resources *	--	2(1)	3(1)	5(1)	**10(3)**
Total	**12(12)**	**12(6)**	**36(12)**	**30(6)**	**90(36)**

*Note: The material for Open Text Based Assessment (**OTBA**) for SA-II will be from Unit - IV: Our Environment (Natural Resources). This unit will be tested through **OTBA** only.

MARKING SCHEME FOR SA – II

SECTION	MARKS	NO. OF QUESTIONS	TOTAL
VSA	1	3	03
SA – I	2	3	06
SA – II	3	12	36
LA	5	6	30
Practical based MCQs	1	9	09
	2	3	06
GRAND TOTAL			**90**

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SUBJECT: SCIENCE   **MAX. MARKS : 90**

CLASS : IX   **DURATION : 3 HRS**

General Instructions:
1. All questions are compulsory.
2. The question paper comprises of **two Sections, A** and **B.** You are to attempt both the sections.
3. All questions of **Section-A** and **Section-B** are to be attempted separately.
4. Question numbers **1 to 3** in **Section-A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**.
5. Question numbers **4 & 5** in **Section-A** are **two marks** questions. These are to be answered in about **30 words** each.
6. Question numbers **6 to 16** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each.
7. Question numbers **17 to 21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
8. **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.
9. 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.
10. Question numbers **34 to 36** in **Section-C** are questions based on practical skills and are **two marks** questions.

<u>SECTION – A</u>

1. Kingdom Fungi have cell wall, but still it cannot be classified under kingdom Plantae? Give any two reasons.

2. If the atomic number of an element is 18, find out the following :
   (a) Number of valence electrons   (b)   Valency

3. If the valency of an element B is 3, write the chemical formula of its chloride.

4. A man weighing 50 kg lifts a weight of 30 kg to the top of building 10 m high. Find the work done by him (take $g = 9.8$ m/s^2)

5. What is meant by sound board ? Give their importance.

6. Derive the molecular formulae for the following compounds:
   (a) Copper (II) bromide
   (b) Ammonium carbonate
   (c) Aluminium oxide

7. (a) What are canal rays ? State the nature of the constituents of canal rays.
   (b) Who discovered canal rays ?

8. Define Atomic Mass Unit. State how do atoms exist ?

9. (a) Draw a well-labelled diagram of Paramoecium.
   (b) Name the kingdom to which it belongs to.

10. What is meant by community ? How our personal health is related to the community issues ? Explain in brief.

11. Complete the given table:

Disease	Causative Organism	Mode of transmission
Dengue fever	(a)	(b)
(c)	Vibrio cholerae	Contaminated food and water
(d)	HIV	(e)
Common cold	Virus	(f)

12. The dimensions of a rectangular block of mass 10 kg kept on a table are $0.2 \times 0.1 \times 0.05$ m^3. Find the pressure exerted by the block if it is kept on the table with sides of dimensions :
(a) 0.2×0.1 m^2 and   (b) 0.1×0.05 m^2 ? (Take g=10 m/s^2)

13. A jerk is given to a toy slinky to produce a longitudinal wave. The wave travels at a speed of 30cm/sec and it has a frequency of 20 Hz. Find the minimum separation distance between consecutive rarefactions of the slinky. Also find distance between adjacent compression and rarefaction.

14. A car of mass 1000 kg starting from rest and moving with uniform acceleration covers a distance of 20 m is 2s. Calculate the work done by the engine of the car during this time.

15. (a) What is upthrust ?
(b) Write applications of (i) Lactometer, (ii) Hydrometer ?

16. In a hot summer afternoon a fruit vendor was selling fruits very loudly. As Amreen was preparing for her exams, she got disturbed. She inquired from her father about the instrument being used by the "fruit vendor". Father told her that it was a megaphone also known as "loud speaker". He explained to the fruit vender not to use megaphone near home.
(a) State the principle on which the megaphone works.
(b) Explain its working.
(c) Why megaphones should not be used in residential areas ? Mention the value shown by her father.

17. Name two elements which have isotopes. Write the symbols of their isotopes and provide an account of the subatomic particles present in each of these isotopes.

18. AIDS is a syndrome which damages body's immune system.
(a) Name the causative agent of the disease.
(b) List four ways through which the AIDS pathogen enters the body of a healthy person.

19. (a) What is the difference between density of a substance and its relative density ? Write SI unit of both.
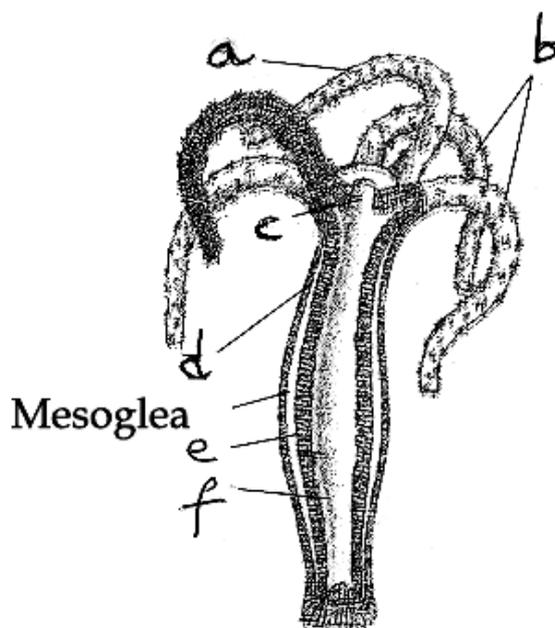(b) Density of gold is 19,300 kg/m^3. Determine its relative density.

20. (a) Define 1 KWh.
(b)A crane is lifting a body to a height 'h' in time 't'. Find the relation between the power of crane to the speed at which it is lifting the object.
(c) If an electric iron of 1600 W is used for 45 minutes everyday, find the electric energy consumed in the month of March.

21. From the figure given below :

(a) State one function each of a and b.
(b) Name the opening (c) and state its function.
(c) How many germ layers are there and which structures are formed from them name e and f ?
(d) In which part of the body digestion takes place ?
(e) Is it colonial or solitary ?

SECTION – B (OTBA)
(THEME –1 : SOLID WASTE MANAGEMENT - HOW TO BRING BEST OUT OF WASTE?)

22. Why waste management is becoming a major bottleneck in clean civic society?

23. Discuss the role played by the informal sector in waste management.

24. Write down the impacts of plastic waste on our environment. Plastic waste can be used to make road. Justify giving example.


SECTION – C

25. In the experiment of verification of reflection of sound, the incident sound is directed along :
(a) the axis of the tube.
(b) the normal to the axis of the tube.
(c) at an angle of 30° from the axis of the tube.
(d) at an angle about 45° from the axis of the tube.

26. 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 ?
(a) Silver Chloride   (b) Sodium Chloride
(c) Sodium Nitrate   (d) Barium Chloride

27. A block of silver and a block of plastic both have the same volume. If they both are submerged in water, the block which experience the higher buoyant force will be:
(a) Silver block

(b) Plastic block

(c) Both will experience same buoyant force as they are submerged in the same fluid.

(d) Both will experience same buoyant force as their volume is same.

28. In an experiment on determining the velocity of a pulse, as it propagates through a atretched wire, a student uses four different lengths of the same wire in increasing order. The velocity of propagation of the pulse, observed by him, would:

(a) show random variations depending on the strength of jerk given to the wire

(b) increases with increase in length

(c) be (nearly) the same for all lengths of the wire

(d) decreases with increase in length.
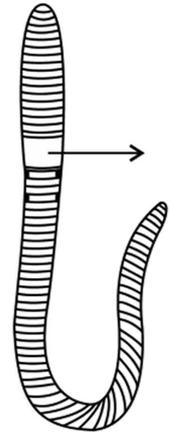
29. An unlabelled outline diagram of an earthworm is shown here. The important feature to be drawn and labelled for placing the earthworm in its phylum is:
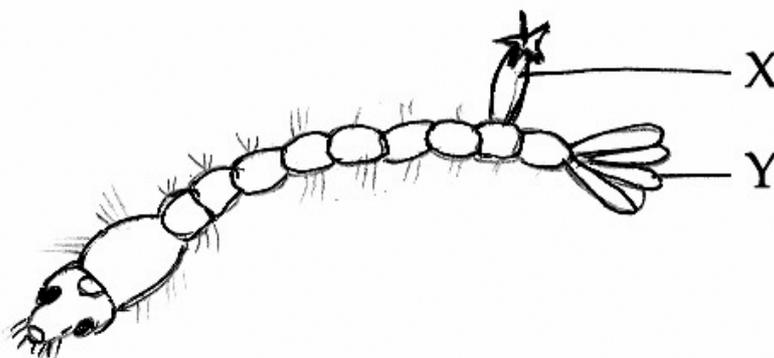
(a) eye   (b) clitellum

(c) annuli   (d) anus

30. Observe the pictures of a bird and a bony fish. The feature that places them in the same phylum is:
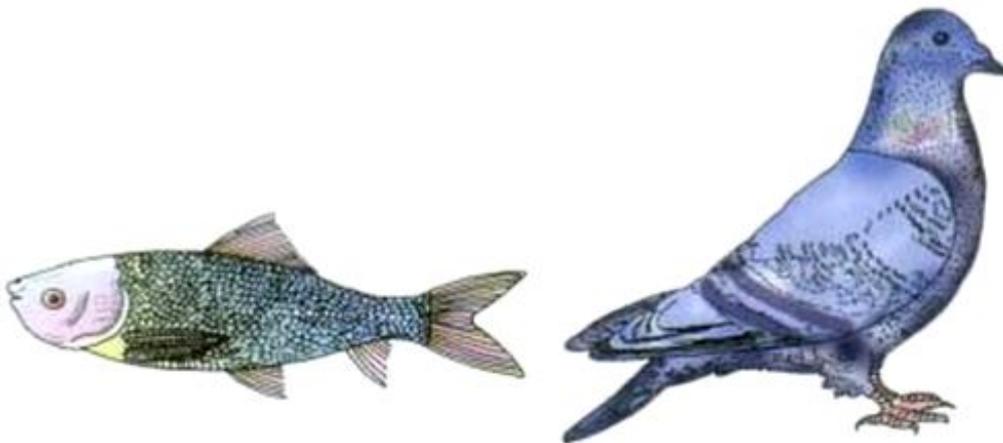
(a) Pointed heads   (b) Bulky thorax

(c) Presence of scales   (d) Post anal tails

31. The correct labels for X and Y in the diagram drawn below are :

(a) X : respiratory siphon, y : air floats

(b) X : respiratory siphon, y : tracheal gills

(c) X : tracheal gills, y : respiratory siphon

(d) X : air floats, y : respiratory siphon

32. When 10g of calcium carbonate is heated, 4.4g of carbon dioxide escapes out. The amount of residue left is:
(a) 5.6g
(b) 9.8g
(c) 10g
(d) 14.4g

33. Cockroach is :
(a) Detritivorous
(b) Herbivorous
(c) Omnivorous
(d) Carnivorous

34. You are given a sphere of volume 33 cm^3. If you are asked to select a best suited spring balance to determine its weight, then what should be the range of the spring balance ?

(The sphere is made of an alloy of density 7 g cm^{-3})

35. When a body is fully immersed in a liquid, the volume of the liquid displaced by the solid is :
(a) greater than the volume of the solid body.
(b) less than the volume of the solid body.
(c) equal to the volume of the solid body.
   Choose two incorrect statements.

36. Observe the sketch. Name it and label X, Y and Z

- X
- Y
- Z

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