Nagaland Board of School Education
Kohima

NO.NBE-1/Ad-CS(10)/2017-18/ 342   Dated Kohima, the /5 th March 2018

To

         The Heads of Registered Schools.

Subject: **Design of model question paper.**

Sir/Madam,

         In reference to this Office Notification No.8/2017 dated 19th December 2017 regarding the revision of Classes IX & XI textbooks which is effective from this academic session 2018, I have the honour to inform you that with the change of syllabus in Class IX Science, a new model question paper have been prepared and a copy of which is enclosed. It is to be noted that the HSLC Science Question Paper will be based on this design/model prepared.

         For other subjects, since there is no change in the syllabus, the existing design of the question paper will continue to be used.

         You are therefore requested to inform the subject teachers to refer the **Science syllabus for the unit wise weightage of marks and the design of question paper**.

         Further, all students of Class IX & X must know the design of question paper for all subjects. Heads of institutions are requested to see that every year, the new students of Class IX & X know the design, the type of questions, number of questions and mark allotment to different types of questions so as to prepare them well for the final examinations.

Yours faithfully,

15.3.2018
(Rangumbuing Nsarangbe)
Controller of Examinations

Revised Syllabus
Class: IX
Subject: SCIENCE

Blue print of the model question paper

Ch No	Name of the chapter	Form of questions					Total Ques.	Total Marks
		MCQ	VSA	SA-I	SA-II	LA		
1.	Matter in Our Surrounding	1(1)			1(3)		2	4
2.	Is Matter Around Us Pure?	1(1)	1(1)		1(3)		3	5
3.	Atoms and Molecules			1(2)	1(3)*		2	5
4.	Structure of the Atom		1(1)			1(5)*	2	6
5.	The fundamental Unit of life	1(1)			1(3)		2	4
6.	Tissues	1(1)		1(2)	1(3)		3	6
7.	Diversity in Living Organisms	1(1)				1(5)*	2	6
8.	Motion		1(1)	1(2)			2	3
9.	Force and Laws of Motion	1(1)	1(1)			1(5)*	3	7
10.	Gravitation				1(3)*		1	3
11.	Work and Energy	1(1)			1(3)*		2	4
12.	Sound	1(1)		1(2)	1(3)*		3	6
13.	Why do we Fall ill?	1(1)			1(3)	1(5)	3	9
14.	Natural Resources		1(1)			1(5)*	2	6
15.	Improvement in Food Resources	1(1)		1(2)	1(3)		3	6
	Total :	**10(10)**	**5(5)**	**5(10)**	**10(30)**	**5(25)**	**35**	**80**

N.B.: *(i) Figures within bracket ( ) indicate the marks.*
(ii) Figures outside bracket ( ) indicate the number of questions.
(iii) (*) indicate internal choice is given.

MODEL QUESTION
CLASS – IX
SCIENCE

Total marks: 80

Time: 3 hours

1. **Choose the correct answer from the given alternatives:**

A. During evaporation process, the heat is   1
   - (i) absorbed
   - (ii) evolved
   - (iii) first absorbed then evolved
   - (iv) initially evolved and then absorbed

B. Which of the following is an element?   1
   - (i) O_2
   - (ii) CO_2
   - (iii) SO_2
   - (iv) NO_2

C. Which of the following is known as suicide bags?   1
   - (i) Lysosomes
   - (ii) Ribosomes
   - (iii) Mitochondria
   - (iv) Golgi bodies

D. The longest cells in the human body are   1
   - (i) bone cells
   - (ii) nerve cells
   - (iii) cardiac muscles
   - (iv) muscle cells

E. Mammals are characterized by the presence of   1
   - (i) hair
   - (ii) pinea
   - (iii) mammary glands
   - (iv) all of these

F. Impulse is measured in   1
   - (i) newton
   - (ii) newton per second
   - (iii) newton per kilogram
   - (iv) newton second

G. A boy throws a ball vertically upwards. As the ball rises, its total energy (neglect friction) 1
   - (i) increases
   - (ii) remains the same
   - (iii) decreases
   - (iv) zero

H. Loudness is a sensation depending upon   1
   - (i) time period
   - (ii) phase
   - (iii) frequency
   - (iv) intensity

I. Prevention of spread of communicable diseases is called   1
   - (i) prophylaxis
   - (ii) epidemiology
   - (iii) parasitology
   - (iv) bacteriology

J. Which of the following is a high milk yielding cross-breed?   1
   - (i) Karan Swiss
   - (ii) Murrah
   - (iii) Tharparkar
   - (iv) Red Sindhi

Answer the following questions in one word or one sentence:

2. Which technique is used to separate oil from water?   1
3. Write down the distribution of electrons in sodium atom.   1
4. Define speed.   1
5. Give the formula of momentum.   1
6. _____ is responsible for Minamata disease.   1

Answer the following questions in 20-30 words:

7. a) Calculate the relative molecular mass of water (H_2O).
   b) Calculate the molecular mass of HNO_3 $1 + 1 = 2$
8. Give two features of cardiac muscles. $2 \times 1 = 2$
9. A bus decreases its speed from 80 kmh^{-1} to 60 kmh^{-1} in 5 s. Find the acceleration of the bus.   2
10. What is sound and how is it produced? $1 + 1 = 2$
11. List two disadvantages of using manures. $2 \times 1 = 2$

Answer the following questions in about 40-60 words:

12. What is the physical state of water at $3 \times 1 = 3$
    (a) 25° C   (b) 0° C   (c) 100° C ?

13. Explain the following $3 \times 1 = 3$
    (a) saturated solution   (b) pure substance   (c) suspension

14. **a.** Calculate the mass of 10 atoms of carbon.

    Or   3

    b. Calculate the number of molecules of sulphur (S_8) present in 16 g of solid sulphur.

15. Draw the structure of a cell and label it.   3

16. What are striated muscles? Draw a labelled diagram of a striated muscle. $1 + 2 = 3$

17. **a.** What is meant by buoyancy? Why does an object float or sink when placed on the surface of water?

    Or $1 + 2 = 3$

    b. State the universal law of gravitation. Write the formula to find the magnitude of the gravitational force between the earth and an object on the surface of the earth.

18. **a.** What is kinetic energy? Write an expression for kinetic energy of an object. $1 + 2 = 3$

    Or

    b. When is work said to be done? Define 1J of work.   3

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19. **a.** Explain how the human ear works.   3

<div align="center">Or</div>

  b. Name three applications of ultrasound in medicine.

20. "Prevention is better than cure". Elaborate this statement keeping in view the communicable diseases.   3

21. How can one differentiate between capture fishing, mariculture and aquaculture?   3

Answer the following questions in about 70-100 words:

22. **a.** Name the three sub-atomic particles of an atom. Compare the three sub-atomic particles of an atom.

<div align="center">Or</div>

$$2 + 3 = 5$$

  b. Explain the Rutherford's model of an atom. What are the limitations of Rutherford's model of the atom?

23. **a.** Explain the basis for grouping organisms into five kingdoms.

<div align="center">Or</div>

  b. Explain how animals in vertebrata are classified into further subgroups.   5

24. **a.** A truck starts from rest and rolls down a hill with a constant acceleration. It travels a distance of 400 m in 20 s. Find its acceleration. Find the force acting on it if its mass is 7 tonnes (1 tonne = 1000 kg).

<div align="center">Or</div>

  b. An object of mass 100 kg is accelerated uniformly from a velocity of $5 ms^{-1}$ to $8 ms^{-1}$ in 6 s. Calculate the initial and final momentum of the object. Also, find the magnitude of the force exerted on the object.   5

25. List various modes of spread of communicable diseases and their preventive measures.   5

26. **a.** What are biogeochemical cycles? Explain the Nitrogen-cycle in nature.

<div align="center">Or</div>

$$1 + 4 = 5$$

  b. What is greenhouse effect? Explain the Carbon-cycle in nature.

<div align="center">***</div>

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