

KENDRIYA VIDYALAYA SANGATHAN
REGIONAL OFFICE, VARANASI
Summative Assessment II, 2015-2016
Class- IX
Subject – Science (086/090)

Max Time : 3:00hrs

Max. Marks : 90

GENERAL INSTRUCTIONS

1. The question paper comprises of three sections A, B and C. You have to attempt all the sections.
2. All questions are compulsory.
3. There is no choice in any question.
4. All questions of section A, B and C are to be attempted separatory.
5. Question no. 1 to 3 in section A are one mark question. These are to be answered in one word are one sentence.
6. Question no. 4 to 6 in section A are two marks questions. These are to be answered in about 30 words.
7. Questions no. 7 to 18 in section A are three marks questions. These are to be answered in about 50 words.
8. Question no. 19 to 22 in section A are five marks questions. These are to be answered in about 70 words.
9. Question no. 23 to 31 in section B are multiple choice questions based on practical skill and are 1 marks each.
10. Question no. 32 to 34 in section B are also based on practical skill and are two marks each you have to give an appropriate answer.
11. Question no. 35 to 37 in section C are based on OTBA having 2,3 and 5 marks respectively.

SECTION – A

1. How many atoms are present in a K_2SO_4 molecule?
2. Define mass number of an atom.
3. Change 1kWh into joule.
4. Define chronic diseases with one example.
5. Which are the two forces act on an object placed on the surface of water?
6. The atomic number of two elements X and Y are 13 and 16. What will be the number of electrons in their ion X^{3+} and Y^{2-} ?
7. Composition of the nuclei of two atomic species X and Y are given below.

40	40
X	Y
18	20

 - (a) Calculate the number of neutrons in X and Y.
 - (b) How many electrons present in M shell of X.
 - (c) What is the relation between X and Y?
- 8 (a) Why do isotopes show similar chemical properties?
 - (b) Define isotopes.
 - (c) Which isotope is used in the treatments of cancer?
9. Draw a well labelled diagram of Balanoglossus with any three identifying features.
10. Define the following terms :
 - (a) Bilaterally symmetrical.
 - (b) Triploblastic.
 - (c) Cryptogamae.

27. On immersing a body fully in a liquid the apparent loss in weight will be :
- (a) More in lighter liquid. (b) Less in denser liquid
(c) More in denser liquid (d) Both a and b
28. An iron cuboid of m gram is placed on a surface measuring ' a ' cm x ' b ' cm. The pressure developed by the cuboid is.
- (a) $m \times g / a \times b$ (b) $m / a \times b$
(c) $a \times b / m$ (d) $a \times b / m \times g$
29. If the angle of incidence is increased by 10° by how much degree will the angle between the incidence wave and reflected wave change?
- (a) 10° (b) 30°
(c) 5° (d) 20°
30. Sound wave travel in form of alternate :
- (a) Crests and troughs (b) Compression and crests
(c) Rarefactions and troughs (d) Compressions and rarefactions.
31. When a sound wave travels in a material medium the physical quantity that is transported from one place to another is :
- (a) Speed (b) Velocity
(c) Mass (d) Energy
32. In which reaction, law of conservations of mass is not applicable?
33. The floral part of a plant consisting 5 sepals, 5 petals, 5 stamens :
- (i) In which group of angiosperm would you like to place this plant?
(ii) What types of leaves venation and root system will be found in this plant?
34. State two precautions that should be observed while making use of an overflow can to determine the density of solid.

SECTION – C

OPEN TEXT BASED ASSESSMENT SCIENCE, CLASS- IX

Theme- 1 : Handling Drought in our Country

- Q.1. Which are the human activities leading to drought like conditions?
- Q.2. How does drought can affects all aspects of our society and environment?
3. Describe all the components related to drought planning process helpful to reduce and eliminate the impact of drought.

Theme- 2 : Conservation of water Bodies.

- Q. 1. How do various anthropogenic activities are responsible for water pollution?
- Q.2. Describe public awareness activities for conservation of water in village.
- Q.3. Which are the programmes and schemes have been launched by Government and other authorities to conserve, recycle and restore the water?

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MARKING SCHEME

Q.nos	Answer	Marks
1.	K ₂ SO ₄ 2+1+4 = 7 atoms	1
2.	The sum of the total number of protons and neutrons present in the nucleus of an atom.	1
3.	1kWh = 1kW x 1h = 1000wx3600s = 3600000J = 3.6 x 10 ⁶ J	1
4.	Definition, Example	1+1
5	If the density of object more than that of liquid – sink. If the density of object less than that of liquid – float.	1+1
6.	X ³⁺ = 13 – 3 = 10 electrons Y ²⁻ = 16+2 = 18 electrons	1+1
7(a).	40 X = 40 – 18 = 22 neutrons 18 40 Y = 40 – 20 = 20 neutrons 20	1+1+1 1+1+1
(b)	Atomic No. of X = 18 No. of proton = No. of electron = 18 K L M 2 8 8 M Shell of x have 8 electrons	1+1+1
(c)	Atomic no. different but mass no same- Isobar	
8. (a)	No. of valancee electron are same	
(b)	Definition of isotope	
(c)	Isotope of cobalt	1+1+1
9.	Figure and any three features.	3
10(a)	Body can be divide in two equal part.	3
(b)	Three layers of cell	
(c)	Hidden reproductive organs, reproductive organs is inconspicuous.	
11(a)	Definition of acute diseases.	1½ + 1½
(b)	Definition of immunisation.	
12	Three difference of each.	1+1+1

13(a)	An active immune system recruits many cells to the affected tissue to kill of the disease – causing microbes. This recruitments process is called inflammation.	1½ + 1½
(b)	If the number of microbes is very small in body the disease manifestation many be minor. If the number of microbes large the disease can be severe.	
14	Any three applications	1+1+1
15.a	Mass of wooden block = 10kg Thrust = 10kg 9.8 ms ⁻² = 98N Area of side = 20cm x 10cm = 200cm ² = 0.02m ² Pressure = (98N/0.02)m ² = $\frac{98 \times 100}{2}$ = 4900 Nm ⁻²	1½ + 1½
b	Area = 40cm x 10cm 400cm ² = 0.04m ² Pressure = (98N/0.04)m ² = $\frac{98 \times 100}{4}$ = 2450 Nm ⁻²	
16(a)	1 joule is the amount of work done on an object when a force of 1N displace it by 1m along line of action of therefore.	1½ + 1½
(b)	Kinetic energy is the energy possessed by an object due to its motion . Ek = ½ mv ²	
17(a)	Work done is negative when the force acts opposite to the direction of displacement and angle between the two forces is 180 ⁰ . displacement is in a direction opposite to the direction of force applied.	
(b)	Mass of luggage m = 50kg displacement = 175cm = 1.75m w = Fxs = mg x s = 50kg x 10ms ⁻² x 1.75m = 875kg ms ⁻² m = 875Nm = 875J	
18(i)	Sound Navigation and Ranging	1+1+1
(ii)	Principle of ultrasonic sound wave.	
(iii)	To determine the depth of sea, locate under water hill, submarine etc.	
19.	Rutherford's model of the atom. Dark back	3+2
20(a)	To reduce the effects of the disease. To kill the cause of the disease or microorganism.	1+1
(b)	Any two features of Echinodermata any two features of Aves	½ + ½ ½ + ½
(c)	Warm blooded – Temperature of body remains same. Cold blooded – Temperature of body change according to environment.	½ + ½
21(a)	Any four applications	½+½+½+½
(b)	t= 5 seconds	

	$v = 1450\text{m/s}$ distance = 2xdepth of sea = 2d 2d = speed x time = 1450 m/s x 5 seconds 2d = 7250m/2 = 3625m	3
22(a)	Power, P = 1500w = (1500/1000) kW = 1.5kW t = 8h Power = Energy used / Time taken Energy used = Power x time = 1.5kW x 8h = 12 unit	2 ½
(b)	m= 10Kg g = 9.8ms ⁻² Ep = 588J Ep = mgh 588J = 10kg x 9.8ms ⁻² x h h = 588J/98Kgms ⁻² = 6m	2 ½
SECTION - B		
23.	d	1
24.	c	1
25.	b	1
26.	c	1
27.	a	1
28.	a	1
29.	d	1
30.	d	1
31.	d	1
32.	In an nuclear reaction	1
33(i)	Dicotyledons	1
(ii)	Reticulate venation, tap root system	½+½
34(i)	The level of water in the overflow can should be up to its brim.	1
(ii)	The overflow can should be placed on a horizontal surface.	1

SECTION – C (OTBA)		
	Theme – 1 Handling Drought in our country.	
Ans.1(i)	Over farming	2
(ii)	Excessive irrigation	
(iii)	Deforestation	
(iv)	Urbanization	
(v)	Industrialisation	
Ans.2(i).	Economical effects – Loss of assets in crop and productive capital.	3
(ii)	Effects on environment	
(a)	Soil become dry	
(b)	Plant will be die	
(c)	Soil erosion	
(d)	Disturbed ecosystem	
(e)	Species become endangered	
(iii)	Human activities-	
(a)	Farmers will struggle	
(b)	Water becomes more expensive	
(c)	Price of food items increase	
Ans.3.	Describe following	5
(a)	Monitoring and early warning	
(b)	Risk assessment	
(c)	Mitigation	
(d)	Post harvest management	
(e)	Public distribution system	
(f)	Crop insurance	
	Them - 2 Conservation of water bodies.	
Ans.1.(a)	Urbanization- pollution	2
(b)	Sewage- water pollution	
(c)	Agriculture- reduce water level	
(d)	Industrial run off- Pollution, gloabal warming	
Ans.2(a)	Celebration of world wet land day.	3
(b)	Celebration of world water day	
(c)	Removal of water weeds.	
(d)	Desalting	
(e)	Compost pit and planting tree.	
Ans.3(a)	Programme for repair, renovation and restoration.	5
(b)	National river conservation plan.	
(c)	Plan for Aquatic eco-system	
(d)	Storm water management plan	
(e)	Awareness programms	