**Kendriya Vidyalaya Sangathan,Lucknow Region**

**Pre Board –I**

**Subject –Science Class –X**

**Max Marks 80. TIME:3HRS**

**Note.Question paper has 30 Questions .Internal choice is given .**

**Section A carries 1mark questions,Section B carries 3 marks questions,section C carries 5 marks questions.**

**Section A**

1. What is the function of split rings in an electric motor?

2. Answer Questions 2a to 2c on the basis of understanding of the paragraph.(1X3=3)

Sunita was learning to bake cakes.`She added according to the recipe and placed it in oven.When the cake was ready

to her surprise,it was not soft and fluffy.

2a.What ingredient she missed to add while preparing the cake.

2b.Write chemical reaction to show how this ingredient makes the cake fluffy.

2c .What is the correct formula of this ingredient-NaHCO3, Na2CO3 ,Na2CO3.10H2O,NaOH

3.Give an Example of food chain existing in the grassland.

4.Name the hormone that regulates carbohydrate ,protein and fat metabolism in the body.

**Directions-In the following questions the assertion and reason have been put forward, read statements**

**carefully and choose correct options.**

**a. Both A and R are true and R is correct explanation of A**

**b. Both A and R are true and R is not correct explanation of A**

**c. A is true and R is false.**

**d. A is false R is true.**

5. A. – Food cans are coated with tin and not with zinc.

R – Tin is less reactive and non toxic metal.

6. A. – The article made silver metal becomes dark on exposure of air for long time.

R – Layer of oxide forms on it’s surface due to oxidation.

7. name an element more reactive than hydrogen and less reactive than hydrogen.

8. What is translocation.

9. In stainless steel alloy , iron is mixed with

a. Cu and Cr, b. Cr and Ni, c. Cr and Sn., d. Cu and Ni.

10.What are the two unique properties of carbon that leads to large no. of compounds?

11. Study the following points and write appropriate term for each.(1x4=4)

a. Process that takes place in fallopian tube \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

b. Dics like special tissue linking embryo to uterine wall of mother \_\_\_\_\_\_\_\_\_\_\_\_\_.

c. Process of first menstruation after attaining puerty\_\_\_\_\_\_\_\_\_\_\_.

d. Surgical method of contraception in males\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

12. An element X forms a chloride with formula XCl2. Which is solid and has high M.P . X is most likely to be in group \_\_\_\_\_\_\_\_\_\_\_\_\_

2,1,16,15

13. Give one use of Concave mirror and convex mirror

OR

Name the type of lens used in microscope.

14.Name the phenomenon involved in twinkling of stars.

**Section B**

15. An element X has atomic number 13 .

a. what is it’s group number and period number.

b. What is it’s valency .

c What would be the formula of it’s oxide .

16. State one reason for the following.

a. Potato Chips bags a flushed with nitrogen gas

b. Iron articles loose their shine after some time.

c. Food should be kept in air tight containers.

17.Wht is Relex Action? Explain with the help of an example. What part of body controls reflex movements?

OR

1. Why is tungsten almost used for filament of electric lamps?
2. Why are conductors of electric heating devices like toasters and irons made of allow rather than pure metal?
3. Why is series arrangement not used for domestic circuits?

18. 2 electric lamps of resistance 20 ohms and 10 ohms are connected in series arrangement to a 6 volt battery. Calculate the total resistance of the circuit and total current through the circuit.

19. Name the plant Mendel used for his experiment. What type of progeny was obtained by Mendel in F1 and F2 generations when he crossed tall and short plants in mono hybrid cross. Write ratio obtained in F2 generations.

Or

List two differences between acquired and inherited traits by giving an example of each.

20. What are isomers? Write structural isomers of butane. Write their IUPAC names.

21.Write function of the following involved in digestion- a bile b HCl, c. Trypsin.

22. Write chemical reaction for the reaction of ethanoic acid with alcohol in the presence of concentrated Sulphuric acid . What is this reaction called ? What is the role of Sulphuric Acid in this reaction?

23. Define the following terms –

a. Homologous organs b. Speciation c. Genetic drift

24. Write the steps involved in extraction of pure metals in the middle of reactivity series from their carbonate ores

OR

Draw labelled diagram for electrolytic refining of copper . Also write reactions at cathode and anode.

**Section C**

25. A. Draw neat diagram of female reproductive system and label the part where

a. egg develops b. fertilization takes place c. fertilized eggs implanted

B. Describe in brief the changes that uterus undergoes –

a. to receive the zygote, b. if zygote is not formed,

OR

1. Name 2 methods of Asexual reproduction and organisms that undergoes reproduction through it.
2. Explain with the help of diagram reproduction in amoeba.
3. Give one advantage of Sexual reproduction over Asexual reproduction.

26. A. Name the functional present in the each of the given compounds –

HCOOH, C2H5CHO

B. Complete the following reactions –

1. CH4+O2→

2. C2H5OH Hot conc. H2SO4→

3. CH3COOH +NaOH →

27. A person needs a lens of power -4.5D for correction vision.

a. What kind of defect is he suffering from ?

b. What is the focal length of corrective lens ?

c. What is the nature of corrective lens?

d. Draw ray diagram for corrective and defective vision.

or

Write functions of given parts of eye – Aqueous humor , Retina, Ciliary muscles, Pupil, Iris.

28.What are the various pathways by which glucose is oxidized?Write two differences between arteries and veins.

29.What is a solenoid?Draw pattern of magneticfield lines through a current carrying solenoid. Write any one property

of magnetic field lines.

30.An object is placed at a distance of 60cm from a concave lens of focal length 30cm.

a.Use lens formula to find distance of image from lens.

b.List four characteristics of image formed by lens.

c.Draw Ray diagram to justify your answer.

Blue print

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| --- | --- | --- | --- | --- |
| Chapter | 1mark | 3marks | 5 marks | Total marks |
| Chemical Reactions and Equations | 1 | 1 |  | 4 |
| Light - | 1 | - | 1 | 6 |
| Acid,Bases and salts | 1x3 | - | - | 3 |
| Human Eye | 1 | - | 1 | 6 |
| Life process | 1 | 1 | 1 | 9 |
| Control coordintion | 1 | 1 | - | 4 |
| Electricity | - | 1 | - | 3 |
| Metals and Non metals | 1x4 | - | 1 | 9 |
| How do organisms reproduce | 1x4 | - | 1 | 9 |
| Carbon and its compounds | 1 | 1x2 | 1 | 12 |
| Magnetic effect of electriccurrent | 1 | - | 1 | 6 |
| Periodic classification of elements | 1 | 1 | - | 4 |
| Our environment | 1 | - | - | 1 |
| Heredity and evolution | - | 1x2 | - | 6 |

**Marking scheme. Pre board 1.Subject science**

1.Splits ring acts as commutator.

2.a.Baking soda

b.NaHCO3 →Na2CO3 +CO2+H2O

c.NaHCO3

3.Grass → deer →lion

4.Thyroxine

5 (a)

6.(c)

7.More reactive element- iron.aluminium

Less reactive element- copper

8.Tranport of food through phloem

9.(b)

10.Catenation and tetravalency.

11.(a) fertilization

(b)Placenta (c)menarche

(d)vasectomy

12.Gp . 2

13.Any one use -1mark

Or

Convex lens

14.Refraction – 1mark

15.a.Gp. no.13 , period no.3(1/2+1/2)

16.(a) correct explanation 1 mark

(b) correct explanation 1 mark

(c) correct explanation 1 mark

17.Reflex action-The path travelled by neuron during reflex activity.

Example-(1 mark)-any correct example.

Spinal cord.

Or

1. It does not melt on heating.
2. It does not oxidize easily.(c)electrical appliances can not bee made on and off separately.

18.Total resistance,R= R1 +R2

=20+10

=30Ω

Total current=V/R =6/30=0.2A

19.Pea plant.

In F1 generation,all plants were tall.In F2 generationTall and short plants were found in ratio 3:1.

Ratio in F2 ,1:2:1

Or

Two correct differences- 2marks

Correct example of each – 1mark

20.Correct definition- 1mark

Isomers of butane-n-butane

2-methyl propane

21.correct function of each-1x3=3marks

22.CH3COOH + C2H5OH →CH3COOC2H5

Esterification reaction

Sulphuric acid acts as dehydrating agent.

23.Correct explanation 1x3=3marks

24.steps –

Concentration of ore,calcination or roasting,reduction refining

25.a.ovary

b.oviduct

c.uterus

(b).Correct explanation (1/2 =1/2 mark)

Or

Any two methods 2 marks

Binary fission in amoeba 2marks

Advantage- sexual reproduction give rise to more variation than asexual reproduction

26.a.carboxlic acid,aldehyde

a.CO2 +H2O

b.CH2CH2

c.CH3COONa

27.Myopia 1mark

Focal length =1/P = 1/4.5 =0.22m

Concave lens

Correct diagram (1+1) mark

Or

Correct function -1x5=5 mark

28.Correct pathway – 3marks

Two correct differences – 2marks

29.Solenoid- 2marks

Correct magnetic field lines-2 marks

Any one property- 1mark

30. formula 1/v-1/u =1/f

v= -60cm

characteristics- virtual,erect,smaller in size,on same side of object.

Correct ray diagram 1 mark