Practice Test : 2019-20

CLASS -X **CH-I/200**

Time :- 3.00 Hours **SUBJECT : SCIENCE** **MM. 80**

General Instructions: –

(1) All questions are compulsory.

(2) Internal choice is given in some question.

(3) Question in section A are of 1 mark. They are to be answered in one word or one sentence.

(4) Question in Section B are of 3 marks. They are to be answered in 50-60 words each.

(5) Questions in section C are of 5 marks. There are to be answered in 80-90 words each.

Section-A

1. $4NH_3 + 50_2 \rightarrow 4NO + 6\,H_2O$

(a) Combination reaction

(b) Redox reaction

(c) Decomposition reaction

(d) Neutralisation reaction.

2. Write the chemical name and chemical formula of washing soda.

3. Write the molecular formula of the 2nd and 3rd member of the homologous series whose first membrane is methane ? 1

4. Draw the structural of formula of ethanoic acid. 1

5. Directions : In each of the following questions a statement of Assertion is given followed by a corresponding statement of reason. Of the statements, mark the correct answer as -

(a) If both assertion and reason are true and reason is the correct explanation of assertion.

(b) If both assertion and reason are true but reason is not the correct explanation of assertion.

(c) If assertion is true but reason is false.

(d) If assertion is false but reason is true.

5. (i) Assertion : Atomic size decreases along the periodic table

Reason - It occurs due to increase in the nuclear charge.

(a) A

(b) B

(c) C

(d) D

5. (ii) Assertion - Mendleev arranged the elements in increasing order of their atomic masses and according to their chemical properties.

Reason - Mendleev even predicted the existence of some yet to be discovered elements on the basis of gaps in his periodic table.

(a) A

(b) B

(c) C

(d) D

6. Questions numbers '(a) - '(d) are based on the paragraph given below. Study this paragraph and answer the questions that follow.

Chronic kidney disease (CKD) is a condition characterized by a gradual loss of kidney function over time. CKD is also known as chronic renal disease. With increasing life expectancy and prevalence of the style diseases, US has seen a 30% increase in prevalence of chronic kidney disease (CKD) in the last decade. Unfortunately, from India there is no longitudinal study and limited data on the prevalence of CKD.

In western countries, diabetes and hypertension account for over 2/3rd of the cases of CKD. In India too, diabetes and hypertension today account for 40-60% cases of CKD. As per recent India too, diabetes and hypertension today account for 40-60% cases of CKD. As per recent Indian Council of Medical Research data, prevalence of diabetes in Indian adult population has risen to 7.1% (varying from 5.8% in Jharkhand to 13.5% in Chandigarh) and in urban population (over the age of 40 years) the prevalence is as 28% Likewise, the reported prevalence of hypertension in the adult population today is 17% (14.8% from rural and 21.4% from urban belt). A similar prevalence of 17.4% has been reported by Panesar et al. (in the age group of 20-59 years) even from slum-resettlement colony of Delhi. With rising prevalence of these diseases in India, prevalence of CKD is expected to rise, and obviously, this is the key target population to address.

A study published in this issue is from a rural belt of Karnataka. The population had a mean age of 39.88+15.87 years with 3.82 prevalence of diabetes and 33.62% of hypertension. Authors found 6.3% prevalence of CKD stage 3, which is the highest reported till date by any Indian worker. It is disturbing to note, the high prevalence of hypertension in a rural setting where over 75% population had normal or low body mass Index, In comparison to most other published studies from India, the present study population is younger and even the prevalene of diabets is low but surprisngly despite that prevalence of stage 3 CKD is reported

to be higher (6.3%). It is disturbing to see the rising prevalence of hypertension and CKD in rural belts. Possibly, with shifting population the difference between urban and rural areas is getting blurred. Undoubtedly, we need more Indian data to validate these findings.

(a) What is CKD ?

(b) What are the major causes of CKD ?

(c) In which segment of society is CKD more prevalent ?

(d) What is the highest percentage of CKD reported ?

7. (a) What is the power of normal eye ?

(b) Which part of eye controls the amount of light entering the eye ? 1

8. (a) Which of one of the following materials cannot be used to make a less ? 1

(i) Water

(ii) Glass

(iii) Plastic

(iv) Clay

(b) If object is a focus of mirror, image will be formed at -

(i) Centre of curvature

(ii) At infinity

(iii) Between pole and focus

(iv) Beyond centre of curvature

9. Electrical resistivity of a wire depends on -

(a) Length

(b) Thickness

(c) Shape

(d) Nature of material

10. SI unit of resistance is -

(a) meter

(b) ohm (Ω)

(c) Ω m (ohm meter)

(d) Meter^2

11. Ammeter is always connected in _____ in an electrical circuit -

(a) Parallel

(b) Series

(c) Outside

(d) Inside

12. The device which is used for producing electric current is called -

(a) Generator

(b) Galvanometer

(c) Meter

(d) Ammeter

13. Frequency of the power supply generated in India is -

(a) 60Hz

(b) 70Hz

(c) 50Hz

(d) 40Hz

14. A trait in an organism is influenced by

(a) Paternal DNA only

(b) Maternal DNA only

(c) Both paternal and maternal DNA

(d) Neither paternal nor material DNA

Section (B)

15. Write one example of each of the decomposition reactions carried out with the help of

(i) Electricity

(ii) Heat

(iii) Sunlight

Give balanced chemical equation in each case.

16. State the chemical property in each case given below, on which the following uses of baking soda are based :

(i) Applied on an ant stung area.

(ii) As a constituent of baking power

(iii) In soda - acid fire extinguisher

17. Na, Mg, Al are the elements of 3rd period of modern periodic table having group 1, 2 and 13 respectively. Which one of these elements has the (a) highest valency (b) Largest atomic radius (c) Maximum chemical reactivity and why.

18. Describe the structure and functioning of nephron.

Or

Draw human excretory system and label on it

(i) Aorta

(ii) Vena Cava

(iii) Urinary bladder

(iv) Ureter

19. What is geotropism ? Draw a labelled diagram showing positive and negative geotropism.

Or

How chemical co-ordination occurs in plants explain with the help of thee examples.

20. Differentiate between pollination and fertilisation ? (Three differences)

Or

(a) What is the difference between acquired and inherited traits.

(b) Draw a neat, labelled diagram of pistil showing pollen tube growth.

21. (a) Explain why the chromosome number of sexually producing parents and their off spring is the same.

(b) Explain : Binary fission and fragmentation.

22. Size of image of an object by a mirror having a focal length of 20cm is observed to be reduced to $\frac{1}{3}$ of its size. At what distance the object has been placed from the mirror. What is the nature of the image and the mirror.

23. A person needs a lens of power - 4.5 D for correction of his vision. What is the defect he is suffering from. What are its causes and what is the nature of corrective less

Or

(a) Why we see sun 2 minutes before actual sunrise and 2 minutes after sunset.

(b) Draw glass slab showing $\angle i$, $\angle r$, $\angle e$

24. (a) Write Joule's law of heating.

(b) Define unit of current

Section (c)

25. (a) Write the steps involved in the extraction of metals in the middle of the activity series. (3+2)

(b) Name the metal which becomes blackish after some time and why.

26. (a) Draw electron dot structure of ethanoic acid and H_2S.

(b) Write one balanced reaction of each -

(i) Hydrogenation

(ii) Esterification

(iii) Substitution

27. (a) What is double circulation and why is necessary ?

(b) Write different ways in which glucose is oxidised to provide energy in various organisms.

28. How does vegetative propagation occur in nature ? Explain with four different examples.

Or

(a) Write the function of the following parts in human female reproductive system -

(i) Ovary

(ii) Oviduct

(iii) Uterus

(b) Write the structure and function of placenta.

29. (a) Define absolute refractive index.

(b) Which mirror is used an rear view mirror and why.

(c) Light enters from air into glass having refractive index 1.50.What is the speed of light in glass. The speed of light in vacuum is $3x10^8$ m/s.

30. (a) Draw circuit diagram showing three resistors R_1, R_2 and R_3 connected in series with battery, ammeter and voltmeter.

(b) State Ohm's law. Draw graph also.

(c) Calculate the number of electrons constituting one coulomb of charge.