

CONVENT OF JESUS AND MARY , SHIMLA

PRE – BOARD EXAMINATION , 2019

SCIENCE

TIME : 3 Hrs.

CLASS - X

M.M:80

General Instructions :

1. The question paper comprises three sections – A, B and C. Attempt all the sections.
2. All questions are compulsory.
3. Internal choice is given in each Section.
4. All questions in Section A are one – mark questions comprising MCQ , VSA type and assertion- reason type questions. They are to be answered in one word or one sentence.
5. All questions in Section B are three-mark, short answer type question. These are to be answered in about 50 – 60 words each.
6. All questions in Section C are five-mark, long-answer type questions. These are to be answered in about 80 – 90 words each.
7. This question paper consists of a total of 30 questions.

CHEMISTRY

SECTION – A

Q.1 Define structural isomerism. 1

Q.2 How does metallic character of elements vary down the group. 1

Q.10 The following reaction is an example of a : 1



(a) Displacement reaction (b) Combination reaction

(c) Redox reaction (d) Neutralisation reaction.

(i) (a) and (d) (ii) (b) and (c) (iii) (a) and (c) (iv) (c) and (d)

Q.11 A solution reacts with crushed egg-shells to give a gas that turns lime water milky. The solution contains: 1

(i) NaCl (ii) HCl (iii) LiCl (iv) KCl

Q.12 The correct sequence of atomic radii is: 1

(i) $Na > Mg > Al > Si$

(ii) $Al > Si > Na > Mg$

(iii) $Si > Al > Mg > Na$

(iv) $Si > Al > Na > Mg$

OR

Element X forms a chloride with the formula XCl_2 , which is a solid with high melting point. X would most likely be in the same group of the Periodic table as:

(i) Na

(ii) Mg

(iii) Al

(iv) Si

For question numbers 13 and 14, two statements are given – one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below.

(i) Both A and R are true and R is correct explanation of the assertion.

(ii) Both A and R are true but R is not the correct explanation of the assertion.

(iii) A is true but R is false.

(iv) A is false but R is true.

Q.13 **Assertion:** Butane, Pentane, Hexane belong to homologous series of Alkanes. 1

Reason: Alkanes are compounds having general formula C_nH_{2n+2}

SECTION – B

Q.15 When you mix the solutions of lead (II) nitrate and potassium iodide. 3

(i) Name the compound precipitated and what is its colour ?

(ii) Write balanced chemical equation for this reaction.

(iii) What type of a chemical reaction occurs in this ?

Q.16 (i) Write the name and chemical formula of the compound which is used by doctors as plaster for supporting fractured bones. 3

(ii) Fresh milk has a pH of 6. How do you think the pH will change as it turns into curd ? Explain your answer.

OR

(i) Four solutions A,B,C and D when tested with universal indicator showed pH as 4, 1, 11 and 9 respectively. Arrange them in increasing order of hydrogen ion concentration

(ii) Give two important uses of :

(a) Baking soda

(b) Washing soda

Q.17 (i) Identify the period and group for the element with atomic number 17. 3

(ii) How does the electronic configuration of an atom relate to its position in the modern periodic table ?

SECTION – C

Q.25 (i) Why do ionic compound have high melting points ? 5

(ii) Show the formation of magnesium oxide by transfer of electrons.

(iii) Describe extraction of mercury metal from its cinnabar ore.

OR

(i) Explain the meaning with example:

(a) malleable

(b) ductile

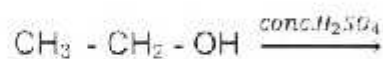
(ii) Define ore

(iii) Name two metals which will displace hydrogen from dilute acids and two metals which will not.

Q.26 (i) What will be the formula and electron dot structure of cyclopentane ? 5

(ii) Convert ethanol to ethanoic acid. Why is it called an oxidation reaction?

(iii) Complete the reaction:



S. Laxmi

CONVENT OF JESUS & MARY, CHELSEA
PRE-BOARD EXAMINATION-2019
PHYSICS(X)

3. A coil of insulated copper wire is connected to a galvanometer. What will happen if a bar magnet is

- (a) pushed into the coil,
- (b) withdrawn from inside the coil,
- (c) held stationary inside the coil?
- (d) both moving with uniform speed. (4x1=4)

5. An electric bulb is rated 220 V and 100 W. When it is operated on 110 V, the power consumed will be –

- (i) 100 W
- (ii) 75 W
- (iii) 50 W
- (iv) 25 W (1)

OR

The device used for producing electric current is called a

- (i) generator.
- (ii) galvanometer.
- (iii) ammeter.
- (iv) motor (1)

6. Voltmeter is connected in

- (i) series
- (ii) parallel
- (iii) both
- (iv) all of these (1)

7. The least distance of distinct vision for a young adult with normal vision is about

- (i) 25 m.
- (ii) 2.5 cm.
- (iii) 25 cm.
- (iv) 2.5 m. (1)

9. the required speed of wind to run windmill is

- i) less than 15km/h
- ii) 15km/h
- iii) greater than 15km/h
- iv) 10km/h (1)

14. Assertion: rate of flow of charge in a wire is called current.

Reason: free electrons are the cause of electric current. (1)

22. Explain good source of energy. (3)

23. A convex mirror used for rear-view on an automobile has a radius of curvature of 3.00 m. If a bus is located at 5.00 m from this mirror, find the position, nature and size of the image. (3)

24. What is myopia how is it corrected, draw diagram. (3)

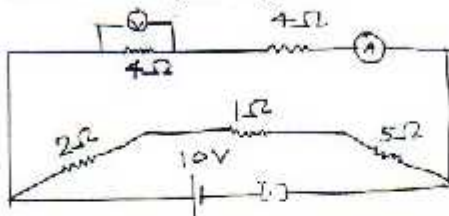
OR

A doctor has prescribed a corrective lens of power +1.5 D. Find the focal length of the lens. Is the prescribed lens diverging or converging?

29. a) Make a diagram to show how hypermetropia is corrected. The near point of a hypermetropic eye is 1 m. What is the power of the lens required to correct this defect? Assume that the near point of the normal eye is 25 cm.

b) Why does the sky appear dark instead of blue to an astronaut? (3+2)

30. From the given fig



- a) find total resistance in a circuit.
- b) find the reading of ammeter.
- c) find reading of voltmeter .
- d) what is reading of ammeter if circuit is open.
- e) total current in a circuit. (5)

CONVENT OF JESUS AND MARY
PRE-BOARD EXAMINATION-2019

CLASS X

BIOLOGY

M.M: 27

SECTION-A

- Q4. (i) Name the hormone secreted by thyroid gland. (1)
- (ii) Mention the function of the hormone secreted by this gland. (1)
- (iii) Where is this gland located? (1)
- (iv) Why is the use of iodised salt advisable? (1)

Q8. Expand the abbreviation GAP:

- (i) Government Agency for Pollution Control
- (ii) Gross Assimilation by photosynthesis
- (iii) Ganga Action Plan
- (iv) Government Agency for Animal Protection (1)

OR

The role of forest is :

- (i) Productive
- (ii) Protective
- (iii) Regulative
- (iv) All of these

SECTION-B

- Q18. (i) Create a terrestrial food chain depicting four trophic levels.
- (ii) Why do we not find food chains of more than four trophic levels in nature? (3)

OR

What are dams? Why are they build? What are the problems associated with building of huge dams?

- Q19. (i) What would be the consequence of a deficiency of haemoglobin in our body?
- (ii) Give any three differences between alveoli and a nephron. (3)

Q20 .The genotype of green stemmed tomato plants is denoted as GG and that of purple stemmed tomato plants as gg. When these two are crossed:

- (i) What colour of stem would you expect in F1 progeny.
 - (ii) Give the percentage of purple stemmed plants if F1 plants are self pollinated.
 - (iii) In which ratio would you find the genotypes GG and Gg in the F2 progeny?
- (3)

Q21. Define reflex arc. Give any two examples of reflex actions. What happens at the synapse between two neurons.

(3)

SECTION-C

Q27.(i) Explain the process of double circulation with the help of a flowchart.

(ii) Name the valves present on the right and left chambers of the heart respectively.

(5)

Q28(i). What are STD'S? Name any four such diseases. Which one of them damages the immune system?

(ii) What happens in case of egg released by the ovary is not fertilized?

(5)

OR

(i) Give a brief account of tissue culture in plants.

(ii) How will an organism be benefitted if it reproduces through spores?

(iii) What is the effect of DNA copying which is not perfectly accurate, on the reproduction process?.

-----X-----X-----

Handwritten signature