

Name of the Student : _____ Roll No.:

Name of the School : _____ Date : _____

Class : _____ Subject: Science Time: 60 Min

Instructions to the Candidate

1. Each question carries 1 mark. There is no negative marking.
2. Separate Optical Mark Reader (OMR) Answer Sheet is supplied to you along with question paper booklet.
3. Read the questions carefully and fill in the circle corresponding to your answer. Fill in the circle Completely.
4. Rough work should be done only in the space provided in the Question Paper Booklet.
5. Return the OMR Answer sheet to the invigilator before leaving the examination hall.
6. You can carry the question paper with you after completing the examination.
7. Once you enter the examination hall, you are not permitted to leave till the end of the examination.

X Class Science

1. What are the end products of anaerobic respiration that the yeast perform
(A) Carbon dioxide, water, energy (B) Alcohol, carbondioxide
(C) Lactic, Carbondioxide (D) Alcohol, water, energy
2. What is the function of pituitary gland
(A) It stimulates sex organs in female reproductive system
(B) It regulates release of thyroxine from thyroid gland
(C) It stimulates production of sperm from testis
(D) All the above
3. Which of the following organisms lack chlorophyll
(A) Euglena (B) Cuscuta reflexa
(C) Pitcher plant (D) None of these
4. Identify the vestigial organ
(A) Eyelids (B) Earpinna in deer
(C) Coccyx in monkey (D) Mammery glands in man
5. Amrita Devi Bishnoi was associated with
(A) Preventing the custom of child marriage in Rajasthan
(B) Campaign to save the girl child

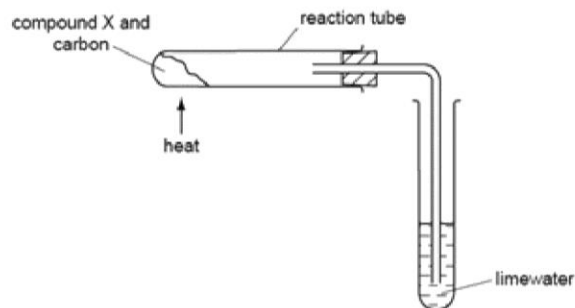
- (C) Conservation of cultural heritage of Rajasthan
(D) Conservation of forests & wildly
6. The concept of ecological pyramids is given by
(A) Thomas Elton (B) Charles Darwin
(C) Charles Elton (D) None of the above
7. Identify the growth inhibitory hormone
(A) Auxin (B) Gibberlin (C) Abscissic acid (D) Cytokine
8. Which of the following is considered as master control centre of body?
(A) Pituitary gland (B) Brain
(C) spinal cord (D) Hypothalamus
9. Peristalsis occurs in
(A) Occurs only in oesophagus
(B) Starts in mouth and ends in anus
(C) Occurs in fallopian tubule
(D) Occurs in trachea of respiratory system
10. Hanger pangs are caused due to hormone
(A) Ghrelin (B) Leptin (C) Both (A) & (B) (D) none of the above

Physics

11. A student conducts an activity using a flask of height 15 cm and a concave mirror. He finds that the image formed is 45 cm in height. What is the magnification of the image?
(a) -3 times (b) -1/ 3 times (c) 1/ 3 times (d) 3 times
12. A student studies that the speed of light in air is 300000 km/sec, whereas that of speed in a glass slab is about 197000 km/sec. What causes the difference in the speed of light in these two media?
(a) Difference in density (b) Difference in temperature
(c) Difference in the amount of light (d) Difference in the direction of wind flow
13. 10 mm long awl pin is placed vertically in front pin is formed at 30cm in front of the mirror. The focal length of this mirror is:
(a) -30 cm (b) -20 cm (c) -40 cm (d) -60 cm

14. Focal length of a plane mirror is
(a) 0 (b) infinite (c) 25 cm (d) -25 cm
15. When a plane mirror is rotated through a certain angle, the reflected ray turns through twice as much and the size of the image:
(a) is doubled (b) is halved (c) becomes infinite (d) remains the same
16. A person sees an object closer to his eyes.
What changes will take place in his eyes?
(a) the pupil size will expand
(b) the ciliary muscles will contract
(c) the focal length of the eye lens will increase
(d) the light entering the eye will be more
17. When white light enters a glass prism from the air, the angle of deviation is least for
(a) blue light
(b) yellow light
(c) violet light
(d) red light
18. The least resistance obtained by using 2 Ω , 4 Ω , 1 Ω and 100 Ω is
(a) < 100 Ω (b) < 4 Ω (c) < 1 Ω (d) > 2 Ω
19. How much more heat is produced if the current is doubled?
(a) twice the original amount
(b) thrice the original amount
(c) four times the original amount
(d) five times the original amount
20. In an electrical circuit, two resistors of 2 Ω and 4 Ω , respectively, are connected in series to a 6 V battery. The heat dissipated by the 4 Ω resistor in 5 s will be
(a) 5 J (b) 10 J (c) 20 J (d) 30 J
21. Which metal is commonly used to form alloys with a non-metallic element?
A. copper B. iron C. magnesium D. zinc
22. Which property is shown by all the metals?
A. They are extracted from their ores by heating with carbon.
B. They conduct electricity.
C. They form acidic oxides.
D. They react with hydrochloric acid to form hydrogen.

23. Brass is an alloy of copper and zinc. Which statement is correct?
 A. Brass can be represented by a chemical formula.
 B. Brass is formed by a chemical reaction between copper and zinc.
 C. The alloy will dissolve completely in dilute hydrochloric acid.
 D. The zinc in the alloy will dissolve in dilute hydrochloric acid.
24. Compound X is heated with carbon using the apparatus shown.
 A brown solid is formed in the reaction tube and the limewater turns cloudy.



What is compound X?

- A. calcium oxide B. copper(II) oxide C. magnesium oxide D. sodium oxide
25. Diamond and graphite are
 A. isomers B. isomorphous C. isotones D. allotropes
26. Iron is obtained from its ore in a blast furnace and is used to make steel.
 Iron obtained from the blast furnace is contaminated with1..... . In order to remove this substance,2..... is passed through the molten iron.3..... is also added to remove oxides of phosphorus and silicon which are4..... .
 Which words complete the sentences about the conversion of iron to steel?

	1	2	3	4
A	carbon	nitrogen	calcium carbonate	acidic
B	carbon	oxygen	calcium oxide	acidic
C	carbon	oxygen	calcium oxide	basic
D	sand	oxygen	calcium oxide	basic

27. Which gas is produced as a waste product?
 A. carbon dioxide B. hydrogen C. nitrogen D. oxygen
28. Iron is extracted from hematite in a blast furnace.
 Which reaction increases the temperature in the blast furnace to over 1500°C?
 A. calcium carbonate → calcium oxide + carbon dioxide
 B. calcium oxide + silicon dioxide → calcium silicate
 C. carbon + oxygen → carbon dioxide
 D. carbon dioxide + carbon → carbon monoxide

29. Iron is extracted from its ore in a Blast Furnace.
Hematite, coke, limestone and hot air are added to the furnace.
Which explanation is not correct?
- A. Coke burns and produces a high temperature.
 - B. Hematite is the ore containing the iron as iron oxide.
 - C. Hot air provides the oxygen for the burning.
 - D. Limestone reduces the iron oxide to iron.
30. In a blast furnace, iron(III) oxide is converted to iron and carbon monoxide is converted to carbon dioxide.

$$\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$$
 What happens to each of these reactants?
- A. Both iron(III) oxide and carbon monoxide are oxidised.
 - B. Both iron(III) oxide and carbon monoxide are reduced.
 - C. Iron(III) oxide is oxidised and carbon monoxide is reduced.
 - D. Iron(III) oxide is reduced and carbon monoxide is oxidised.
31. The table gives the solubility of four substances in ethanol and in water.
A mixture containing all four substances is added to ethanol, stirred and filtered.
The solid residue is added to water, stirred and filtered.
The filtrate is evaporated to dryness, leaving a white solid.
Which is the white solid?

	solubility in	
	ethanol	water
A	insoluble	insoluble
B	insoluble	soluble
C	soluble	insoluble
D	soluble	soluble

32. Three chemicals, P, Q and R, were each dissolved in water. The table shows some of the reactions of these solutions.

solution	reaction when solid sodium carbonate is added	reaction when heated with solid ammonium chloride
P	gas evolved	no reaction
Q	no reaction	gas evolved
R	no reaction	no reaction

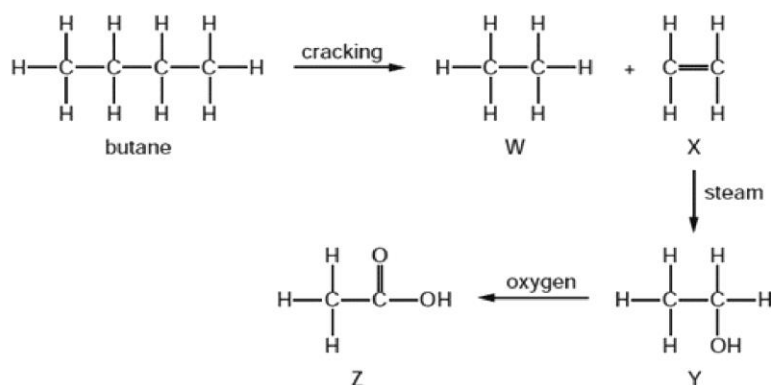
The pH of the three solutions was also measured.
What are the correct pH values of these solutions?

	P	Q	R
A	2	7	13
B	2	1	7
C	7	2	13
D	13	7	2

33. A colourless solution is tested by the following reactions.
Which reaction is not characteristic of an acid?
- A piece of magnesium ribbon is added. Bubbles are seen and the magnesium disappears.
 - A pungent smelling gas is produced when ammonium carbonate is added.
 - Copper oxide powder is added and the mixture is warmed. The solution turns blue.
 - The solution turns blue litmus red.
34. What is the correct sequence of steps for the preparation of a pure sample of copper(II) sulfate crystals from copper(II) oxide and sulfuric acid?
- dissolving → crystallisation → evaporation → filtration
 - dissolving → evaporation → filtration → crystallisation
 - dissolving → filtration → crystallisation → evaporation
 - dissolving → filtration → evaporation → crystallisation
35. Aluminium reacts with iron(III) oxide as shown.

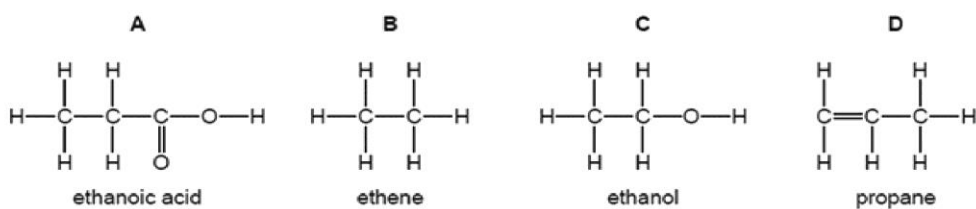
$$\text{iron(III) oxide} + \text{aluminium} \rightarrow \text{iron} + \text{aluminium oxide}$$
 Which statement about this reaction is correct?
- Aluminium is oxidised.
 - Aluminium oxide is reduced.
 - Iron(III) oxide is oxidised.
 - Iron is oxidised.
36. The equations below all show redox reactions.
- $$\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$$
- $$2\text{ZnO} + \text{C} \rightarrow 2\text{Zn} + \text{CO}_2$$
- $$\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$$
- $$2\text{CO} + 2\text{NO} \rightarrow 2\text{CO}_2 + \text{N}_2$$
- Which oxide is oxidised in these reactions?
- Fe_2O_3
 - CO
 - ZnO
 - NO

37. What are the names of the compounds shown in the reaction scheme below?

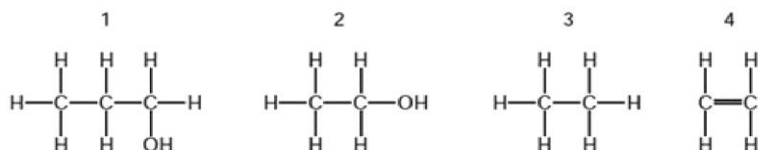


	W	X	Y	Z
A	ethane	ethene	ethanol	ethanoic acid
B	ethane	ethene	ethanoic acid	ethanol
C	ethene	ethane	ethanol	ethanoic acid
D	ethene	ethane	ethanoic acid	ethanol

38. Which of the following structures is correctly named?



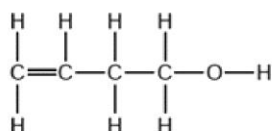
39. The structures of four molecules are shown.



Which molecules belong to the same homologous series?

- A. 1 and 2 B. 1 and 3 C. 2 and 4 D. 3 and 4

40. The diagram shows the structure of a compound.



Which functional groups does this molecule contain?

	carboxylic acid	alkene	alcohol
A	no	no	no
B	no	yes	yes
C	yes	no	yes
D	yes	yes	yes