Practice Paper
Class-IX (2019-20)
SCIENCE

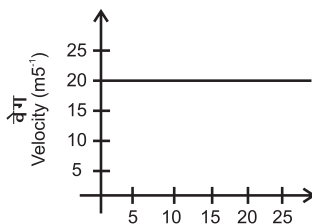**Time : 3 Hours**
General Instructions :

M.M. 80

Section 'A'

1. Which of the following are physical changes ?
   (i) Melting of iron metal
   (ii) Rusting of iron
   (iii) Bending of an iron rod
   (iv) Drawing a wire of iron metal
   (a) (i), (ii) and (iii)   (b) (i), (ii) and (iv)
   (c) (i), (iii) and (iv)   (d) (ii), (iii) and (iv)

2. Mass of one atom of oxygen is
   (a) $16g / 6.023 \times 10^{23}$ (b) $32g / 6.023 \times 10^{23}$
   (c) $1 g / 6.023 \times 10^{23}$ (d) 8u

3. Fill in the blanks
   a) Ozone - layer is getting depleted because of _____
   b) The two forms of oxygen found in the atmosphere are _____

4. A particle is moving in a circular path of radius r. This displacement after half a circle would be :
   (a) Zero   (b) πr
   (c) 2 r   (c) $2\pi r$

5. Making anti-viral drugs is more difficult than making anti-bacterial medicines because.
   (a) Viruses make use of host machinery
   (b) Viruses are on the border line of living and non-living
   (c) Viruses have very few biochemical mechanisms of their own.
   (d) Viruses have a protein coat.

6. Which step is not involved in the carbon-cycle ?
   (a) Photosynthesis   (b) Transpiration
   (c) Respiration   (d) Burning of fossil fuels

7. What is the momentum of an object of mass m, moving with a velocity v ?

8. How does weeds affect the crop plants ?

9. Correct the given statement :

   Third law of motion states that action and reaction always act on same bodies in same directions.

10. Soil formation is done by both abiotic and biotic factors. Write one biotic and abiotic factor for making soil.

11. Why does the temperature of a substance remain constant during its melting point or boiling point ?

12. What are the postulates of Bohr's model of an atom ?

13. Define the terms and give one example of each
    (a) Bilateral Symmetry
    (b) Coelom
    (c) Triploblastic

14. An element is sonorous and highly ductile under which category would you classify this element ? what other characteristics do you expect the element to possess ?

15. The following velocity - time graph shows the motion of a cyclist. Find (i) it's acceleration (ii) the velocity and (iii) the distance covered by the cyclist in 15 seconds.
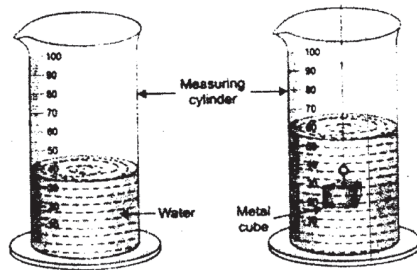
16. A rocket is moving up with a velocity v. If the velocity of this rocket is suddenly tripled. What will be the ratio of two kinetic energies ?

17. Answer the given questions :

    a) Fertile soil has lot of humus. Why ?

    b) Why step farming is common in hills ?

    c) Why are root nodules useful for the plants ?

18. Write down the electron distribution of chlorine atom. How many electrons are there in L Shell ? (Atomic number of chlorine is 17)

19. Answer the questions :

    a) What is an antibiotic ? Give two examples.

    b) Name any two diseases transmitted through vectors

20. Differentiate between

    a) Capture fishery and culture fishery.

    b) Bee keeping and poultry farming

    c) Mixed cropping and inter cropping

21. (i) Which has more number of atoms ?

    a) 100g of N_2 or 100g of NH_3

    (ii) Calculate the number of moles of magnesium present in a Magnesium ribbon weighing 12g. Molar atomic mass of mg is 24 mol^{-1}

22. a) Draw a well labelled diagram of plant cell. How is it different from animal cell ?

    b) differentiate between rough and smooth endoplasmic reticulum.

23. Explain.
    a) A horse continues to apply a force in order to move a cart with a constant speed. Why ?
    b) What is the relation between force and acceleration.
    c) A bullet of 10g strikes a sand-bag at a speed of 10^3 ms^{-1} and gets embedded after travelling 5cm. calculate the resistive force exerted by sand on the bullet

24. Establish the relationship between speed of sound, its wave length and frequency. if velocity of sound in air is 340 ms^{-1} calculate.
    a) Wavelength when frequency is 256Hz
    b) Frequency when wavelength is 0.85 m.

25. Differentiate between
    a) Sclerenchyma and parenchma tissues (draw their diagram also)
    b) Draw well labelled diagram of various types of muscles found in human body.

26. Explain :
    a) Suppose gravity of earth suddenly becomes zero. Then in which direction will the moon begin to move if no other celestial body affects it ?
    b) What is universal law of gravitation ?

Section 'B'

27. In the determination of boiling point of water, Correct reading in the thermometer is noted when
    a) Water starts boiling
    b) Whole of the water evaporates.
    c) Temperature starts rising
    d) Temperature becomes constant.

28. On adding 1mL of $BaCl_2$ solution to 2mL of Na_2SO_4 solution in test tube the observation would be
    a) A clear solution is obtained
    b) A white precipitate is obtained
    c) A yellow precipitate is obtained
    d) No reaction takes place

29. When we heat mixture of sulphur powder and iron fillings, the first observation made is.
    a) Sulphur melts
    b) Iron filling starts melting
    c) Mixture becomes red hot
    d) Mixture evaportes

30. Which of the following is not a feature of dicotyledonous plants :
    a)   Pentamerous flower
    b)   Leaves with reticulate venation
    c)   Fibrous root system
    d)   Two cotyledons
31. The water level in a measuring cylinder before and after immersing a metal cube in it is shown in the figure. The volume of the metal cube is

    a)   24 cm3
    b)   22 cm3
    c)   20 cm3
    d)   18 cm3

32. What would be the correct sequence of processes to separate the components of a mixture of sand, common salt and ammonium chloride ?
33. We put cover slip gently on the slide to _____
    (avoid outflow of stain / avoid entry of air bubbles)
34. Correct the sentence :
    When sound waves travel in a medium it transports velocity.
35. Name the phyla to which Earthworms and Cockroach belong to :
36. In the experiment to establish relation between loss in weight of an immersed solid with the weight of water displace by it, the up thrust experienced by the object in tap water and in salty water are U_w and U_{sw} state which of these two liquids have more upthrust.