DIRECTORE OF GOVERNMENT EXAMINATION, CHENNAI-6

SSLC EXAMINATION

SUPPLEMENTARY EXAM SEPTEMBER -2020

KEY ANSWER FOR SCIENCE(NEW SYLLABUS)

PART – I

1. (d) Bifocal Lens

2. (c) 6.023×10^{23}

3. (d) Sulphur in Carbon disulphide

4. (b) 54000J

5. (b) Combustion of ethanol

6. (b) Ethyl alcohol

7. (b) William Harvey

8. (b) axons

9. (b) Cyto kinin

10. (b) Restriction Enzymes

11. (d)   (1)   (ii)   (2) (iv)   (3) (i)   (4) (iii)

12. (c) Metacentric – The centromere occurs in the centre of the

    chromosome and forms two equal arms

PART – II

13.   2x1=2

(i) A gear is a circular wheel with teeth around its rim.

(ii) It helps to change the speed of rotation of a wheel by changing the torque and helps to transmit power.
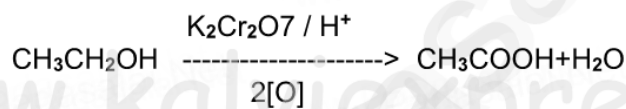
14.   2x1=2

     (i)   When source and listener both are rest.

     (ii)   When source and listener move in such a way that distance between them remains constant.

     (iii)   When source and listener are moving in mutually perpendicular directions.

15.   2x1=2

     ➢ Coefficient of need expansion is defined as the ratio of the true rise in the volume of the liquid per degree rise in temperature to its unit volume.

     ➢ It's SI unit is k^{-1}

16.   1x2=2

$$CH_3CH_2OH \xrightarrow[2[O]]{K_2Cr_2O7 / H^+} CH_3COOH + H_2O$$

17.   1x2=2

Types (1 mark)	Location (1 mark)
i) Unipolar neurons	Early embryos.
ii) Bipolar neurons	Ratina of eye and olfactory epithelium of nasal chambers.
iii) Multipolar neurons	Cerebral contier of brain.

18.   4x ½ = 2

     A-Thyroid Certilage   (½)

     B-Thyroid gland (½)

     C-Trachea   (½)

     D-Nodule(½)

19.   2 x 1 = 2

❖ By radioactive elements present in it-carbon, uranium each or Pottassium

❖ By radioactive carbon(C14) dating method – carbon consumption of animals and plants stops after death and since then, only the decaying process of C14 occurs continuously

20.   Any 2 Points   2x1=2

❖ Used in forensic applications the crime investigation such as identifying the culprit.

❖ It is used for paternity testing in case of disputes.

❖ It helps in the study of genetic diversity of population, evolution and speciation.

21.   2x1=2

❖ Stage is the background appearing when we open the scratch window.

❖ The background will most often we white

❖ We can change the background colour as we like

22.   2x1=2

$f = -0.3 \, Û$

$v = -0.2 \, Û$

$$\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$$ (1 mark)

$$\frac{1}{u} = \frac{1}{v} - \frac{1}{f}$$

$$\frac{1}{u} = \frac{1}{-0.2} - \frac{1}{-0.3} = \frac{-10}{6}$$

$$u = \frac{-10}{6} = -0.6 \ \text{m}$$ (1 mark)

Part - III

23.   Describe rocket propulsion

   ❖ Law of conservation of liner momentum, Newton's second law of motion.

   ❖ Hot gas is ejected.

   ❖ Equal and opposite reaction, combustion chamber.

   ❖ Increase velocity.

   ❖ Escape velocity

24.   What are the uses of simple microscope? (any four)

   ❖ By watch repairs and jewelers

   ❖ To read small letters clearly

   ❖ To observe parts of flower, insects etc.,

   ❖ To observe finger prints in the field of forensic science

25.   (a) What do you understand by the term 'Ultra Sonic Waves'?

   • Ultra sonic vibration are ultrasonic wave.   (2)

   • Frequency greater than 20KHz or 20,000Hz   (2)

   (b) What are the medical application of echo?

   ❖ Visualize the human foetus inside the uterus before the baby born   (1)

   ❖ Used in SONAR to measure the depth of the Sea   (1)

26.   What are the methods of preventing corrosion?

Alloying Definition   (2)

Surface coating   (4x ½ =2)

   (a) Galvanization

   (b) Electro plating

   (c) Anodizing

   (d) Catholic protection

27.   Differentiate Soap and detergent (Any four points)   (4)

28.   Differentiate between Monocot and Dicot root (Each points carries one mark) Four Points   (4)

29.   Draw the external structure of human heart and label the parts (2)

      Diagram   -   (2)

      Parts   -   (2)

30.   Defne Ethnobotany and write it importance   (2)

      Define : Ethno botany is the study of a region is plants and their practical uses. Through the tradition knowledge of the local culture

      Importance :- Any two points   (2)

31.   Explain about Gene Therapy

      Gene Therapy Definition   (2)

      Types with Explanation   (2)

32.   a)   A solution was prepared by dissolving 25g of sugar in 100g of water. Calculate the mass percentage of solute.

$$\text{Mass percentage} = \frac{\text{Mass of solute}}{\text{Mass of solution}} \times 100$$

    b) True or False

    (i) False

      In our class daily life, solution of syrups, mouth wash, antiseptic solution, house hold disinfectants etc., the concentration of ingredients of solution is express as (v/v)

     (ii) False

      In oinments, antacids, soaps etc., the concentration of solution in expressed as (w/w)

PART - IV

33.   3x7=21

1. Bring power supply to the main box from distribution panel transformer   (1)

2. Fuse Wire   (1)

3. Meter (1)

4. Red insulation   (½)

5. Black insulation (½)   (7)

6. 5A rating circuit (1)

7. 15 A rating circuit (1)

8. Parallel Connection (1)

b) Properties of Alpha, Beta, Gamma

1. Definition

2. Charge

3. Ionising Power   (7)

4. Penetrating power

5. Effect of Electric and Magnetic Field

6. Speed

         (Any 5 points)

34.   (7)

    (i) Any five points each carries one mark   (5x1=5)

    (ii) Any two uses of Avogadro's Law   (2x1=2)

    (b)

    (i) 'A' displaces 'B' elements   - 2

        Any one example   – 1 ½

                                                   (7)

    (ii) Definition   - 2

        Any one example   – 1 ½

35.

    (a)   (i)   For free aeration   - 2

            (ii)   Cystitis

                 Urinary infection   -5   (7)

                 Asymptomatic bacteria

    (b)

    (i) Any 3 points   - 3

    (ii) Any 2 points   - 2   (7)

    (iii)Any 2 points   - 2