

Class : 10Register
Number

1 0 8 1 1

COMMON HALF YEARLY EXAMINATION - 2022 - 23

Time Allowed : 3.00 Hours]

SCIENCE

[Max. Marks : 75

Instructions: (1) Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.

(2) Use Black or Blue ink to write and underline and pencil to draw diagrams

Note : This question paper contains four parts

PART - I

Note : (i) Answer all the questions

12x1=12

(ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer

- To project rockets which principle(s) is / are required?
 - Newton's third law of motion
 - Newton's law of gravitation
 - Law of conservation of linear momentum
 - Both a & c
- 20 bulbs are connected in series. If one bulb is fused and the remaining 19 bulbs are joined in series and connected to the same power supply, the light in the room will be
 - increased
 - decreased
 - remain the same
 - decreased much
- _____ isotope is used in the treatment of cancer
 - Radio Iodine
 - Radio Carbon
 - Radio Cobalt
 - Radio Nickel
- _____ group contains the member of halogen family
 - 17th
 - 15th
 - 18th
 - 16th
- Deliquescence is due to _____
 - Strong affinity to water
 - Less affinity to water
 - Strong hatred to water
 - Inertness to water
- Boiling point of Ethanol is _____
 - 381 K
 - 361 K
 - 351 K
 - 341 K
- Which is formed during anaerobic respiration?
 - Carbohydrate
 - Ethyl alcohol
 - Acetyl co. A
 - Pyruvate
- Which is called 'Heart of heart'?
 - SA node
 - AV node
 - Purkinje fibre
 - Bundle of His
- 'Richmond lang effect' is due to _____
 - Gibberellins
 - Cytokinins
 - Absciscic acid
 - Ethylene
- Polyphagia is a condition seen in _____
 - Obesity
 - Diabetes mellitus
 - Diabetes insipidus
 - AIDS
- Which of the following is / are fossil fuel?
 - Tar
 - Coal
 - petroleum
 - i, ii and iii
- An object is placed 25 cm from a convex lens whose focal length is 10 cm. The image distance is _____
 - 50 cm
 - 16.66 cm
 - 6.66 cm
 - 10 cm

PART - II

Note : (i) Answer all the questions. Question number 22 is compulsory.

7x2=14

- Define inertia. Give its classifications
- Mention two cases in which there is no Doppler effect in sound
- Write any two features of natural and artificial radioactivity
- What is rust? Give the equation for the formation of rust.
- State whether the statement is true or false. If false correct the statement
 - Solutions which contain three components are called binary solution.
 - The molecular formula of green vitriol is $\text{MgSO}_4 \cdot 7 \text{H}_2\text{O}$
- What is amalgam? Give an example
- Draw and label the structure of oxysomes.
- Fill in the blanks
 - Normal blood pressure is _____
 - The part of human brain which acts as _____
- What are the various routes by which transmission of human immuno deficiency virus takes place? KK / 10 / Sci / 1

22. Two bodies have a mass ratio of 3:4. The force applied on the bigger mass produces an acceleration of 12 ms^{-2} . What could be the acceleration of the other body, if the same force acts on it.

PART - III

Note : (i) Answer all the questions. Question number 32 is compulsory.

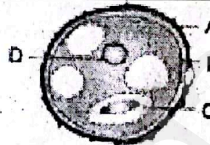
7x4 = 28

23. a) State Boyle's law
b) The acceleration due to gravity on the surface of the earth will be maximum at _____ and minimum at _____
24. a) What is meant by ultrasonic vibrations?
b) State any three uses of ultrasonic vibrations
25. a) What are the uses of nuclear reactor?
b) What is nuclear fusion reaction?
26. a) Give an example each
i) gas in liquid ii) solid in liquid iii) solid in solid iv) gas in gas
b) Define combination reaction
27. a) What is an alloy?
b) What are the reasons for alloying?
28. List out the parasitic adaptations of leech
29. a) What is the importance of valves in heart?

b) Match the following

Column A	Column B
1. Nissl's granules	a. Forebrain
2. Hypothalamus	b. Peripheral nervous system
3. Cerebellum	c. Cyton
4. Schwann cell	d. Hindbrain

30. i) Identify the parts A, B, C and D



- ii) Name two organisms which reproduce through budding.
31. a) How can you determine the age of the fossils?
b) State the applications of DNA fingerprinting technique
32. An organic compound 'A' is widely used as a preservative and has the molecular formula $\text{C}_2\text{H}_4\text{O}_2$. This compound reacts with ethanol to form a sweet smelling compound 'B'
- a. Identify the compound 'A'
b. Write the chemical equation for its reaction with ethanol to form a sweet smelling compound 'B'
c. Name the process

PART - IV

Note : (i) Answer all the questions. Draw diagrams wherever necessary

3x7=21

33. i) a. State Snell's law.
b. Explain the construction and working of a 'Compound microscope' (or)
ii) a. With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected a) in series and b) in parallel.
b. State Ohm's law.
34. i) a. Define atomicity
b. Derive the relationship between Relative molecular mass and Vapour density. (or)
ii) a. How is ethanol manufactured from sugarcane?
b. Mention the IUPAC name of this compound
- $$\begin{array}{c} \text{CH}_3 - \text{CH} - \text{CH}_2 - \text{OH} \\ | \\ \text{CH}_3 \end{array}$$
35. i) a. Name the parts of the hind brain
b. With a neat labelled diagram explain the structure of a neuron. (or)
ii) a. What are the advantages of using biogas?
b. Name two maize hybrids rich in amino acid lysine

KK / 10 / Sci / 2