Tsi10S

Tenkasi District

Common Half Yearly Examination - 2024

19-12-24

Standard 10

SCIENCE

Part - I

Time: 3.00 Hours Marks: 75

I. Answer all the questions **12x1=12**

1) The value of universal gravitational constant in S.I. unit is .....
   a) 6.674×10^{-11} Nm^2 kg^{-2} b) 6.674×10^{-11} Nm^2 kg^2
   c) 6.674×10^{-11} Nm^{-2} kg^{-2} d) 6.674×10^{-11} Nm^{-2} kg^2
2) Kilowatt hour is the unit of .....
   a) resistivity b) conductivity
   c) electrical energy d) electrical power
3) If a sound wave travels with a frequency of 1.25×10^4 Hz at 344 ms^{-1}, the wavelength will be .....
   a) 27.52 m b) 275.2m c) 2.752 m d) 0.02752 m
4) ..... isotope is used for the treatment of cancer
   a) Radio cobalt b) Radio iodine c) Radio carbon d) Radio Nickel
5) The gram molecular mass of ammonia is .....
   a) 18 g b) 17 g c) 16 g d) 19 g
6) Brass is the alloy of .....
   a) Cu, Sn b) Cu, Mg c) Cu, Zn d) All of them
7) The pH of a solution is 3. Its $[OH^-]$concentration is
   a) 1×10^{-3} M b) 3 M c) 1×10^{-11} M d) 11 M
8) Which of the following is universal solvent?
   a) Acetone b) Benzene c) water d) Alcohol
9) The endarch condition is the characteristic feature of .....
   a) root b) Stem c) leaves d) flower
10) Which is referred as Master gland?
   a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland
11) The "use and disuse theory' was proposed by .....
   a) Jean Baptise Lamarck b) Charles Darwin
   c) Ernst Haeckel d) Mendel
12) ..... is the third largest consumer of Crude oil in the world
   a) USA b) China c) India d) Russia

Part - II

II. Answer any 7 questions. (Q.No. 22 is compulsory) **7x2=14**

13) Differentiate concave lens and convex lens
14) State law of volume
15) Rust is chemically known as ..... Its formula is .....
16) Say True or False and correct false statement
   i) The reaction between an acid and a base is called neutralisation reaction
   ii) On dipping a pH paper in a solution, it turns into yellow. Then the solution is basic
17) How is diastema formed in rabbit?
18) **Match the following:**
   a) Symplastic Pathway - Leaf
   b) Transpiration - Plasmodesmata
   c) Osmosis - Pressure in Xylem
   d) Root pressure - Pressure gradient

19) Name the parts of hind brain
20) What is stage?
21) What are Okazaki fragments?
22) Calculate the amount of energy released when a radio active substance undergoes fusion and results in a mass defect of 2 kg.

Part - III

III. Answer any 7 questions. (Q.No. 32 is compulsory) **7x4=28**

23) State Newtons laws of motion
24) List the merits of LED bulb
25) Define i) One roentgen
    ii) Soddy and Fajan's displacement law
26) Give the applications of Avagadro's law
27) Differentiate Hygroscopic substances and Deliquescent substances
28) What is Photosynthesis. Give its reaction
29) Enumerate the functions of Blood
30) Write the physiological effects of gibberellins
31) How do you differentiate homologous organs from analogous organs?
32) A solid compound 'A' decomposes on heating into 'B' and a gas 'C'. On passing the gas 'C' through water, it becomes acidic. Identify A, B and C

Part - IV

IV. Answer all the questions. **3x7=21**

33) a) Distinguish (i) Ideal gas and real gas
    (ii) Myopia and Hypermetropia

(OR)

b) i) What is echo?
   ii) State two conditions necessary for hearing an echo.
   iii) What are the medical applications of echo?
   iv) How can you calculate the speed of sound using echo?

34) a) i) Arrive at, systematically the IUPAC name of the compound $CH_3-CH_2-CH_2-OH$
   ii) Draw the structure of the following and say whether its is saturated or unsaturated
   a) Propane b) Benzene

(OR)

b) i) What is homologous series? Give any three of its characteristics
   ii) Define esterification reaction with equation

35) a) i) Discuss the importance of biotechnology in the field of medicine
   ii) Name two maize hybrids rich in aminoacid lysine

(OR)

b) i) How will you prevent soil erosion
   ii) What are the agents of soil erosion

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