**DEPARTMENT OF SCHOOL EDUCATION**

**Government NEET Coaching- 2019-20**

**SMALL TEST - 1**

 **Time: 60 min**

 **Marks: 240**

**Instructions:**

**1) Answer all the questions**

**2) For Every correct answer Four marks will be given**

**3) For Every wrong answer One mark will be deducted**

**CHOOSE THE CORRECT ANSWER 60x4=240**

|  |  |
| --- | --- |
| 1. | A force F is given by F=at+$bt^{2}$, where ‘t’ is time the dimensions of ‘a’ and ‘b’ are |
|  | 1) $\left[MLT^{-3}\right]$ and $\left[MLT^{-4}\right]$  | 2) $\left[MLT^{-4}\right]$ and $\left[MLT^{-3}\right]$  |
|  | 3) $\left[MLT^{-1}\right]$ and $\left[MLT^{-2}\right]$  | 4) $\left[MLT^{-2}\right]$ and $\left[MLT^{0}\right]$  |
| 2 | With usual rotation, the following equation said to give the distance covered in ‘n’ th sec (i.e) $S\_{n=u+a\left(\frac{2n-1}{2}\right)}$ in |
|  | 1) Only numerically correct | 2) Only dimensionally correct |
|  | 3) Both dimensionally and numerically correct | 4) Neither numerically nor dimensionally correct |
| 3 | The velocity ‘V’ of a Partide at time ‘T’ in given by V= $at^{2}$+bt+c, where ‘t’ in time. What are the dimensions of a,b and c respectively? |
|  | 1) $\left[LT^{-3}\right]$,$ \left[LT^{-2}\right]$ and $\left[LT^{-1}\right]$ | 2) $\left[LT^{-1}\right]$,$ \left[LT^{-2}\right]$ and $\left[LT^{-3}\right]$ |
|  | 3) $\left[LT^{-2}\right]$,$ \left[LT^{-3}\right]$ and $\left[LT^{-1}\right]$ | 4) $\left[LT^{-1}\right]$,$ \left[LT^{-3}\right]$ and $\left[LT^{-2}\right]$ |
| 4 | The frequency of vibration of string is given by f=$\frac{P}{2l}$ $\left[\frac{F}{m}\right]^{\frac{1}{2}}$ Here ‘P’ is number of segments in the string and ‘l’ is the length. The dimensional formula for ‘m’ will be |
|  | 1) $\left[M^{0}LT^{-1}\right]$ | 2) $\left[ML^{0} T^{-1}\right]$ | 3) $\left[ML^{-1} T^{0}\right]$ | 4) $\left[M^{0}L^{0} T^{0}\right]$ |
| 5  | Measure of two quantities along with the precision of respective measuring instrument is A=2.5 $ms^{-1}$ $\pm $ 0.5 $ms^{-1}$ , B= 0.10 S$\pm $ 0.01 S. The value of AB will be |
|  | 1) (0.25$\pm 0.$08) m | 2) (0.25$\pm 0.$5) m | 3) (0.25$\pm 0.$05) m | 4) (0.25$\pm 0.$135) m |
| 6 | If force ‘F’, length ‘L’, and time T are taken as fundamental units, the dimensional formula for mass ‘M’ will be |
|  | 1) $\left[FL^{-1}T^{2}\right]$ | 2) $\left[FLT^{-2}\right]$ | 3) $\left[FL^{-1}T^{-1}\right]$ | 4) $\left[FL^{5}T^{-2}\right]$ |
| 7 | From the dimensional consideration, which of the following equations is correct? |
|  | 1) T=2$π\sqrt{\frac{R^{3}}{GM}}$ | 2) T=2$π\sqrt{\frac{GM}{R^{3}}}$ | 3) T=2$π\sqrt{\frac{GM}{R^{2}}}$ | 4) T=2$π\sqrt{\frac{R^{2}}{GM}}$ |
| 8 | If voltage V= (100$\pm 5$) volt and current I= (10$\pm 0.2$) A the percentage error in resistance ‘R’ is? |
|  | 1) 5.2% | 2) 25% | 3) 7% | 4) 10% |
| 9 | If the momentum of an object is increased by 10% its kinetic energy is increased by  |
|  | 1) 20% | 2) 21% | 3) 40% | 4) 19% |
| 10 | The magnetic force on a point charge is $→$ = q( $→$ X $→$ ), here q $\rightarrow $ electric charge, v $\rightarrow $ velocity of point charge, B $\rightarrow $ magnetic field the dimensions of ‘B’ are |
|  | 1)$ \left[MLT^{-1}A\right]$  | 2) $\left[M^{2}LT^{-2}A^{-1}\right]$  | $$3) \left[MLT^{-2}A^{-1}\right]$$ | 4) $\left[ML^{2}T^{-2}A^{-1}\right]$  |
| 11 | A capillary tube is attached horizontally to a constant heat arrangement. If the radius of the capillary tube is increased by 10%, then the rate of flow of liquid will change nearly by  |
|  | 1) $+$10% | 2) $+$46% | 3) -10% | 4) -40% |
| 12 | By what percentage should the pressure of a given mass of a gas be increased so as to decrease its volume by 10% at a constant temprature |
|  | 1) 5% | 2) 7.2% | 3) 12.5% | 4) 11.1% |
| 13 | A quantity is given by X=$\frac{ε\_{0lv}}{t}$, where ‘V’ is the potential differnce, ‘l’ is the length. Then ‘X’ has the dimensional formula same as that of  |
|  | 1) resistance | 2) Charge | 3) Voltage | 4) Current |
| 14 | You measure two quantities as A= 1.0m$ \pm $ 0.2m, B= 2.0m$ \pm $ 0.2m. We should report correct value for $\sqrt{AB }$ as |
|  | 1) 1.4m$ \pm $ 0.4m | 2) 1.41m$ \pm $ 0.15m | 3) 1.4m$ \pm $ 0.3m | 4) 1.4m$ \pm $ 0.2m |
| 15 | If momentum ‘P’ area ‘A’ and time ‘T’ are taken to be fundamental quantities, then energy has the dimensional formula |
|  | 1) )$ \left[PA^{-1}T^{-1}\right]$  | 2) $\left[P^{2}AT\right]$ | 3) $\left[PA^{\frac{-1}{2}}T\right]$ | 4) $\left[PA^{\frac{-1}{2}}T^{-1}\right]$ |
| 16 | The equation of redox reaction is balanced either by oxidation number method or by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ method. |
|  | a) Reduction | b) Combination | c) displacement | d) Ion - electron |
| 17 | The number of water molecules in a drop of water weighing 0.018g is. |
|  | a) 6.022X1026 | b) 6.022X1023 | c) 6.022X1020 | d) 9.9X1022 |
| 18 | The equivalent mass of KMn$O\_{4}$ in alkaline medium is Mn$O\_{4}^{-}$+2$ H\_{2}$O+ 3$e^{-}$ $\rightarrow $ Mn$O\_{2}$+ 4O$H^{-}$ |
|  | a) 31.6 | b) 52.7 | c) 79 | d) none of these |
| 19 | Calculate the amount of water produced by combustion of 32g of methane$CH\_{4} \left(g\right) $+2$ O\_{2}\left(g\right) $ $\rightarrow $ $CO\_{2}\left(g\right) $+ 2$H\_{2}$O$\left(g\right)$ |
|  | a) 72g of H2O | b) 18g of H2O | c) 36 g of H2O | d) 44 g of H2O |
| 20 | The quantity of reactants and products can be expressed in terms of |
|  | a) molar | b) KJ-1 | c) $dm^{3}$ | d) volume |
| 21 | Empirical formula mass of Tartaric acid is |
|  | a) 115 | b) 50 | c) 75 | d) 100 |
| 22 | The equivalent mass of trivalent metal element is 9geq-1 . The molar mass of its an hydrous oxide is |
|  | a) 102g | b) 27g | c) 270g | d) 78g |
| 23 | The oxidation number of oxygen in super oxide such as $KO\_{2}$ is |
|  | a) +2 | b) + $\frac{1}{2}$ | c) -2 | d) - $\frac{1}{2}$ |
| 24 | In hemoglobin the oxidation of Fe2+ ion is not possible because |
|  | a) Hydrophilic nature | b) globin protein chain |
|  | c) Hydrolytic nature | d) Hydrophobic nature |
| 25 | The organic compound present in Vinegar is  |
|  | a) HCOOH  | 2) C6H6 | c) C2H6 | d) C2H4O2 |
| 26 | The relative atomic mass of one Hydrogen atom is |
|  | a) 1.008 u | b) 1.008 gmol-1 | c) 1.008 eu | d) None of these |
| 27 | The empirical formula of caffeine C8H10N4O2is |
|  | a) C4$H\_{5}$N2O | b) C4H5N2O2 | c) CHNO | d) All of these |
| 28 | Which of following contain same number of carbon atoms as in 6g of carbon |
|  | a) 7.5gC2H6 | b) 8 g CH4 | c) both (a) an (b) | d) None of these |
| 29 | The equivalent mass of kmno4 in acidic medium is Mn$O\_{4}^{-}$ + 5$e^{-}$ $+ 8H^{+} \rightarrow $ M$n^{2+}$ + 4$H\_{2}$O |
|  | a) 79 | b) 31.6 | c) 52.7 | d) 278 |
| 30 | Carbon forms two oxides namely carbon monoxide and carbon dioxide.The equivalent mass of which element remains constant? |
|  | a) Carbon  | b) Oxygan | c)both Carbon and oxygen | d) neither Carbon nor oxygen |
| 31 | Which one of the following is common to multi cellular fungi, filamentous algae and protonema of mosses? |
|  | 1) Diplontic life cycle | 2) Members of kingdom planate |
|  | 3) Mode of nutrition | 4) Multiplication by fragmentation |
| 32 | The lable of a habarium sheet does not carry information on:- |
|  | 1)Name of collector | 2) Local names |
|  | 3)Height of the plant | 4)Date of collection |
| 33 | Which set of organisms multifly through fragmentation:- |
|  | 1) Planaria, Hydra, Yeast | 2) Echinoderms, Fungi, Bacteria |
|  | 3) Fungi, Filamentous algae protonema of mosses  | 4) Amoea, hydra, Virus |
| 34 | Which of the following match is Incorrect:- |
|  | Common name | Genus | Order | Class |
| 1) |  Man |  Homo |  Primta | Mammalia |
| 2) |  Mango | Mangifera | Sapindales |  Dicotyledonae |
| 3) | House fly |  Musca | Coelopetra |  Insecta |
| 4) |  Wheat |  Tritium |  Poales |  Monocotyledonae |
| 35 | Select the correct combination:- |
|  | 1) Earlist classification based on – uses of various organisms |
|  | 2) Reproduction is synonymous with growth – Primitve multicellular organisms |
|  | 3) ICZN – International code of zoo nomenclature |
|  | 4)NBRI – National botanical registered institute |
| 36 | The taxonomic aid that provides information for the identification of names of species found in an avea is |
|  | 1) Mongraph | 1) Manual | 1) Catalogue | 1) Periodical |
| 37 | Assertion A: Differentiation and organogenesis takes place during growth |
|  |  Reason R : Number of cells increase during growth |
|  | 1) Both A and R are true R is Correct explanation A |
|  | 2) Both A and R are true and R is not correct Explantion of A |
|  | 3) A- true R is Wrong |
|  | 4) A – Wrong R is true |
| 38 | The term Species Was conied by  |
|  | 1) Engler | 2) Linnaeus | 3) john ray | 4) Ernst mayor |
| 39 | Choose the following pair:- |
|  | Colum I ( Museum ) | Colum II ( Place ) |
|  | a) Natural history museum | i) Vadodara |
|  | b) Zoological survey of india | ii) Chennai |
|  | c) Government m useum  | iii) Kolkata |
|  | d) Study of museology | iv) Mumbai |
|  | 1) a – i, b – iv, c- iii, d – ii | 2) a – ii, b – i, c- iV, d – iii |
|  | 3) a – iii, b – ii, c- i, d – iv | 4) a – iV, b – iii, c- ii, d – i |
| 40 | The sum total of chemical reactions occurring in our body is called |
|  | 1) Metabolism | 2) Homestasis | 3) Catabolism | 4) Anabolism |
| 41 | Which biological name is wrongly written? |
|  | 1) Apis indica | 2) Triticum aestivation | 3) Felis domesticus | 4) Mangifera indica |
| 42 | The key are based on contrasting characters? Generally in pairs called? |
|  | 1) Duplex | 2) couplet | 3) Diamer | 4) All of these |
| 43 | Find out the incorrect statement from following:- |
|  | 1) Closely related species differ in morphological features:- |
|  | 2) Genus comprises a group of related species |
|  | 3) Taxonomic structures are useful in agricultural forestry and industries |
|  | 4) Notochord and ventral hollow neural system are common features of phylum chordate |
| 44 | Growth development and functioning of living body is due to |
|  | 1) Decrease in entropy | 2) Increase in gibbs – free energy | 3) Metabolism | 4) Adaptations |
| 45 | Which of the following organism does not reproduce? |
|  | 1) Mules | 2) Sterile work bees | 3) sterile human couple | 4) all of these |
| 46 | In sponges, water is conducted from outside into the spongocoel by |
|  | 1) Archaecocytes | 2) Porocytes |
|  | 3) Cnidocytes | 4) Thesocytes |
| 47 | Triploblastic animals show |
|  | 1) Asymmetry | 2) Radial symmetry |
|  | 3) Bilateral symmetry | 4) Spherical symmetry |
| 48 | Circulatory system for the first time developed in  |
|  | 1) Platy helminthes | 2) Aschelminthes |
|  | 3) Arthropoda | 4) Annelida |
| 49 | The central cavity of a sponge is called |
|  | 1) Gastrovascular cavity | 2) Haemocoel |
|  | 3) Pseudocoelom  | 3) Paragastric cavity |
| 50 | The body of ctenophora bears eight external rows of ciliated \_\_\_\_\_\_\_\_\_\_ |
|  | 1) Ostia | 2) Spicules | 3) hypostome | 4) comb plates |
| 51 | Specialised cells called \_\_\_\_\_\_\_\_ help in osmoregulation and excretion in platy helminthes  |
|  | 1) Flame cells | 2) Nephridia | 3) Malphigian tubules | 4) gills |
| 52 | Match the following |
|  | A) Physalia | i) Earth worm |
|  | B) Spongilla | ii) Filarial worm |
|  | C) Wuchereria | iii)Portuguese man of war |
|  | D) Pheretima | iv) Fresh water sponge |
|  | 1) A - i, B - ii, C – iii, D – iv | 2) A - iii, B - iv, C – ii, D – i |
|  | 3) A - ii, B - i, C – iv, D – iii | 4) A - iii, B - ii, C – i, D – iv  |
| 53 | Identify the wrong statement(s) |
|  | A) Cnidarians exhibit organ level of organisation  |
|  | B) Some Cnidarians have skeleton composed of calcium carbonate  |
|  | C) Polyps are sessile and cylindrical |
|  | D) Medusa exists in both forms, exhibit alternation of generation  |
|  | 1) A and B | 2) C and D | 3) B and C | 4) Only A |
| 54 | Read the following statements  |
|  | A) They are the lateral appendages |
|  | B) They are highly vascular |
|  | C) They bear numerous setae |
|  | D) They help in respiration and excretion |
|  | Which of the above are true about Parapodia of Nereis? |
|  | 1) B,C and D | 2) A,C and D | 3) A,B and D | 4) A,B and C |
| 55 | (S) : Nutrition in sponges is holozoic |
|  | (R) : Digestion in sponges is intra cellular  |
|  | 1) Both (S) and (R) are true and (R) is the correct explanation of (S) |
|  | 2) Both (S) and (R) are true but (R) is not the correct explanation of (S) |
|  | 3) (S) is true but (R) is not true |
|  | 4) Both (S) and (R) are not true |
| 56 | Closed Circulatory system is present in \_\_\_\_\_\_\_\_\_\_\_\_ |
|  | 1) Nereis | 2) Pheretima | 3) Ascaris | 4) Both 1 and 2 |
| 57 | Polyembryony is exhibited by \_\_\_\_\_\_\_ |
|  | 1) Tape worms | 2) Polychaetes  | 3) Planarians | 4) Flukes |
| 58 | Read the following statements |
|  | A) Body is circular in cross section |
|  | B) Body is covered by a transparent, tough and protective collagenous cuticle  |
|  | C) Presence of cuticle is unique to nematodes |
|  | D) Epidermis is syncytial in all |
|  | Which of the above are true about nematodes? |
|  | 1) A and B | 2) B and C | 3) A and C | 4) C and D |
| 59 | Incomplete digestive system is found in  |
|  | 1) Coelenterates | 2) Platy helminths | 3) Nematodes | 4) Annelids |
| 60 | Pennatula is commonly called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | 1) Sea pen | 2) Sea fan | 3) Sea anemone | 4) Sea cucumber |

------------------- All the Best ----------------------

ANSWER KEY

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 16 | 4 | 31 | 4 | 46 | 2 |
| 2  | 3 | 17 | 3 | 32 | 3 | 47 | 3 |
| 3 | 1 | 18 | 2 | 33 | 3 | 48 | 4 |
| 4 | 3 | 19 | 1 | 34 | 3 | 49 | 1 |
| 5 | 1 | 20 | 4 | 35 | 1 | 50 | 4 |
| 6 | 1 | 21 | 3 | 36 | 3 | 51 | 1 |
| 7 | 1 | 22 | 1 | 37 | 2 | 52 | 2 |
| 8 | 3 | 23 | 4 | 38 | 3 | 53 | 4 |
| 9 | 2 | 24 | 4 | 39 | 4 | 54 | 4 |
| 10 | 3 | 25 | 4 | 40 | 1 | 55 | 2 |
| 11 | 2 | 26 | 1 | 41 | 4 | 56 | 4 |
| 12 | 4 | 27 | 1 | 42 | 2 | 57 | 4 |
| 13 | 4 | 28 | 3 | 43 | 4 | 58 | 1 |
| 14 | 4 | 29 | 2 | 44 | 1 | 59 | 2 |
| 15 | 4 | 30 | 2 | 45 | 4 | 60 | 1 |