

# Radhika Higher Sec. School Urlabari-3, Morang

## Model questions for entrance Exam

Level: XI Stream: Science

Name : ..... Roll No. : .....

### Physics

- The rate of flow of electric charge is called  
a. Force b. current c. voltage d. none of the above
- The S.I. unit of heat capacity is  
a.  $\text{JK}^{-1}$  b.  $\text{JK}^{-1}\text{K}^{-1}$  c.  $\text{JkgK}^{-1}$  d. none of the above
- Weightlessness is a feeling when  
a. g is zero b. Reaction is zero c. both a & b d. none of the above
- The power of a lens whose focal length is 20cm is  
a. 5d b. 0.5D c. both a & b d. none of the above
- The branch of physics which deals about object at rest is called  
a. Statics b. dynamics c. kinematics d. none of the above
- The value of  $100^{\circ}\text{C}$  is equivalent to  
a. 273K b. 0K c. 373K d. none of the above
- On the Earth, the value of g is maximum at  
a. equator b. poles c. the center d. both a & b
- Light years is the unit of  
a. velocity b. time c. both a & b d. distance
- The branch of physics which deals about the universe is called  
a. cosmology b. geology c. meteorology d. anthropology
- Impulse is the change of  
a. velocity b. momentum c. acceleration d. force
- The S.I. unit of time period is  
a. cycle b. cycle per second c. hertz d. second
- A vessel used to measure heat loss gain is called  
a. calorimeter b. thermometer c. voltmeter d. barometer

- The minimum size of the mirror required to see the full image of a person is  
a. half size of person b. double size of person c. same size d. none of the above
  - A ball is thrown upward with a velocity  $20\text{m}^{-1}\text{s}$ , the time taken by ball in air is  
a. 3s b. 4s c. 5s d. none of the above
  - $40^{\circ}\text{C}$  is equivalent to  
a.  $100^{\circ}\text{F}$  b.  $104^{\circ}\text{F}$  c.  $130^{\circ}\text{F}$  d.  $103^{\circ}\text{F}$
  - The critical angle of a solid is  $60^{\circ}$ . Its refractive index is  
a. 1/2 b. 0.866 c. 1.15 d. 2.5
  - An object traveling with greater the velocity of sound is called  
a. infrasonic b. ultrasonic c. supersonic d. none of the above
  - The rate of doing work is called  
a. energy b. power c. force d. none of the above
  - A device used to store electric charge is called  
a. voltmeter b. capacitor c. galvanometer d. none of the above
  - The phenomenon of bending of light it passes from one medium to another is called  
a. refraction b. dispersion c. scattering d. none of the above
- End
- ### Chemistry
- oxygen is present..... block of periodic table  
a. s b. p c. d d. f
  - 'Tritium' is the isotope of .....
  - Molecular formula of 'Green Vitriol' is.....  
a.  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$  b.  $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$  c.  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  d.  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$
  - The element 'Argon' is  
a. Reactive element b. Radioactive c. Inert gas d. non-reactive element
  - One mole represents  
a.  $6.023 \times 10^{23}$  b.  $6.023 \times 10^{-23}$  c.  $6.023 \times 10^{24}$  d.  $6.023 \times 10^{-24}$
  - Which is the following compound is neutral?  
a.  $\text{CO}_2$  b.  $\text{NO}_2$  c. CO d. ZnO

7. Which is the common name of the calcium hydroxide?

a. slaked lime b. lime water c. milk of lime d. all

8. The monomer of polyvinyl chloride (PVC) is

a. Ethyl chloride b. vinyl chloride c. Ethane d. none

9. Valence of copper in  $\text{Cu}_2\text{Cl}_2$  is

a. 1 b. 2 c. 3 d. 4

10. Hematite is the ore of

a. Copper b. Aluminum c. Iron d. Zinc

11. Purity of gold is measured in

a. percentage b. carat c. octane number d. all

12. 'CFCl<sub>3</sub>' is also the called

a. CFC b. Freon c. Teflons d. all

13. What is the PH of Butter?

a. 5 b. 6 c. 7 d. 5.5

14. Cl represents

a. Chlorine atom b. Acid radical c. Basic radical d. Free radical

15. Lead crystal glass is also called

a. Pyrex glass b. water glass c. flint glass d. quartz glass

16. Functional group of aldehyde is

a. -COOH b. -CONH<sub>2</sub> c. ?C=O d. -CHO

17. 'Mustard gas' is prepared from

a. alkane b. alkene c. alkyne d. all

18. Permanent hardness of water can removed by

a. boiling b. Clark's method c. Permutit method d. all

19. Colour of phenolphthalein indicator in acidic medium is

a. green b. yellow c. pink d. colourless

20.  $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$  is the molecular formula of

a. Baking soda b. washing soda c. soda ash d. caustic soda

End

## Mathematics

1. If  $x + 1$  is the reciprocal of  $x-1$ , then  $x$  equals

a.  $\sqrt{-2}$  b. 1 c.  $\sqrt{2}$  d. 3

2. If  $x$  is divisible by 8 but not by 3, then which of the following is not an integer

a.  $\frac{x}{4}$  b.  $\frac{x}{2}$  c.  $\frac{x}{8}$  d.  $\frac{x}{3}$

3. Which is the circumference of a circle whose area is  $10\pi$

a.  $5\pi$  b.  $10\pi$  c.  $2\pi\sqrt{10}$  d.  $\pi\sqrt{10}$

4. The angle between the vectors.  $2\vec{i} + 3\vec{j} + \vec{k}$  and  $2\vec{i} - 3\vec{j} - \vec{k}$  is

a.  $\frac{\pi}{4}$  b.  $\frac{\pi}{3}$  c.  $\frac{\pi}{2}$  d. none

5. Two dice are rolled once. What is the probability of getting a sum of 6 or 5

a.  $\frac{9}{36}$  b.  $\frac{2}{36}$  c.  $\frac{12}{36}$  d.  $\frac{6}{36}$

6. The diagonal of a square is  $\sqrt{200}m$ , its perimeter will be

a. 100 b. 40 c. 10 d. 200

7. The equation of the line passing through (1,2) and perpendicular to  $x+y+4 = 2$  is

a.  $y-x-1=0$  b.  $y-x-1=0$  c.  $y-x+2=0$  d.  $y-x-2=0$

8. If  $x-y=2$  and  $x+y=6$ , the product  $xy$  is

a. 8 b. 10 c. 16 d. 12

9. If  $A = \begin{bmatrix} 3 & -1 \\ 5 & -2 \end{bmatrix}$  and  $B = \begin{bmatrix} p & -q \\ r & -s \end{bmatrix}$  are inverse of each other, then the

value of  $p, q, r, s$  respectively

a. 2, -1, 5, -3 b. 2, 1, 5, 8 c. 1, 2, 0, 0 d. -2, 1, 1, 3

10. The ratio of the ages of A and B is 3:5. If B is 8 years elder to A then

what is the ages of A?

a. 12 b. 14 c. 16 d. 18

11. The average of a number and a number half of it 12. Then the number

a. 64 b. 16 c. 32 d. 12

12. The equation  $x=0$  represents

a. origin b. line parallel to x-axis c. x-axis d. y-axis

13. A single discount equivalent to the successive discount 10% & 5% will be

a. 4.5% b. 10% c. 3.5% d. none

14. The value of 'a' for which lines represented  $ax^2 + 5xy + 2y^2 = 0$  are perpendicular if  
 a. -5    b. -2    c. 2    d. none
15. The range of the relation  $R = \{(x, y) : x + 2y < 6 \text{ and } x, y \in \mathbb{N}\}$   
 a. {1,2}    b. {0,2}    c. {1,5}    d. none
16. If  $A = \begin{bmatrix} 1 & 2 \\ 3 & 1 \end{bmatrix}$  then the value of determinant of  $A^2$  is  
 a. 6    b. 24    c. 8    d. 25
17. One of the factors of  $2x^2 + 5x - 3 = 0$  is  
 a.  $x+3$     b.  $x+5$     c.  $x-3$     d. none
18. The value of  $\operatorname{cosec} 35^\circ - \operatorname{sec} 55^\circ$  will be  
 a. 0    b. -1    c. 10    d. 2
19. The lines  $2x - 3ay - 1 = 0$  and  $3x + 4y + 1 = 0$  are mutually perpendicular, then the value of 'a' is  
 a.  $-1/2$     b. 3    c. 5    d. none
20. If A and B are two sets such that  $n(A) = 17$ ,  $n(A \cup B) = 38$  and  $n(A \cap B) = 2$ , then the value of  $n(A - B)$  is  
 a. 10    b. 25    c. 31    d. 21

End

### Biology

- Hookworm belongs to the phylum  
 a. platyhelminthes    b. nemathelminthes    c. coelenterate    d. porifera
- Which one of the following is a viral disease?  
 a. measles    b. chicken pox    c. both a & b    d. TB
- Which one of the following is not a monocot?  
 a. rice    b. pea    c. maize    d. wheat
- Division of nucleus is called  
 a. karyokinesis    b. cytokinesis    c. phytokinesis    d. none of the above
- Which one of the following is a hermaphrodite?  
 a. man    b. frog    c. cow    d. earthworm
- Who is the father of genetics?  
 a. Carious Linnaeus    b. Charles Darwin    c. Gregor John Mendel    d. Robert Brown
- Which one gas is responsible for ozone layer depletion?  
 a.  $O_2$     b.  $N_2$     c.  $H_2$     d. CFC
- There are .....satellites of Saturn.  
 a. 20    b. 21    c. 23    d. 24
- The gametophyte of a fern plant is called  
 a. gamete    b. prothales    c. pre-embryo    d. antheridia
- Anopheles mosquito lay  
 a. 40-100    b. 200-300    c. 300-400    d. 400-500
- Which one blood cell is also called leucocytes?  
 a. RBC    b. WBC    c. platelets    d. none of the above
- How many ribs are there in a human body?  
 a. 12 pairs    b. 6 pairs    c. 24 pairs    d. 10 pairs
- The valve between the left auricle and left ventricle is called  
 a. Tricuspid valve    b. bicuspid valve    c. semilunar valve    d. pulmonary valve
- Which one is the master gland of the human body?  
 a. pituitary gland    b. thyroid gland    c. pancreas    d. parathyroid gland
- Which one is the nitrogen-fixing bacterium?  
 a. pseudomonas    b. rhizobium    c. micrococcus    d. all
- Which one is the producer of an ecosystem?  
 a. tiger    b. deer    c. fungi    d. algae
- Synapsis occurs in .....sub-stage of meiosis  
 a. leptotene    b. pachytene    c. zygotene    d. diplotene
- Which mosquito causes filariasis?  
 a. culex    b. anopheles    c. both a and b    d. none of the above
- Fern belongs to  
 a. algae    b. bryophyte    c. pteridophyte    d. gymnosperm
- Which one is the male part of a flower?  
 a. calyx    b. corolla    c. androecium    d. gynoecium

End

## English

1. My mother reached her office..... 4:30  
a. at b. on c. by d. from
  2. The boy..... I met yesterday, is from Gulmi.  
a. when b. what c. which d. whom
  3. What did he.....as a present?  
a. brought b. is brought c. bring d. brings
  4. The passive voice of the sentence "They have asked me a question" is  
a. I have been asked a question b. I was asked a question  
c. I had been asked a question by them d. I was being asked a question
  5. If were you, I.....Pokhara once.  
a. will visit b. visited c. would visit d. visit
  6. Which one of the following sentences is correct?  
a. A small boy cries at midnight b. A small boy cries at midnight  
c. A small boy is crying at midnight d. A small boy is cried at midnight
  7. Either his sister or Hari.....friends  
a. invite b. to invite c. invites d. inviting
  8. Thomas Hardy is a  
a. politician b. researcher c. poet d. footballer
  9. The indirect speech of the sentences: Ram said to Hari, "Has your sister passed the S.L.C.?" is.....  
a. Ram told Hari his sister has passed the SLC  
b. Ram asked Hari that is his sister passed the SLC  
c. Ram asked Hari whether his sister passed the SLC  
d. Ram asked Hari if his sister had passed the SLC
  10. The antonym of the word "Polite" is.....  
a. rude b. humble c. gentle d. sincere
  11. The correct tag question of "Everyone enjoys the World Cup Football" is  
a. do they? b. does they? c. dose he? d. doesn't they?
  12. Do not laugh.....the poor.  
a. in b. with c. at d. on
  13. Which of the following is a synonym of "massacre"?  
a. murder b. save c. put into prison d. innocent
  14. Which of the following sentences is correctly punctuated?  
a. What? A lovely bird b. What a lovely bird!  
c. What a lovely bird it is d. What a lovely bird is it?
  15. The objective form the word 'Moon' is.....  
a. solar b. lunar c. lunatic d. solicit
  16. I have not met him.....he left school.  
a. for b. since c. from d. with
  17. The single word of 'that cannot be believed' is  
a. inevitable b. invincible c. incredible d. incapable
  18. The group of fish is called  
a. shoal b. swarm c. herd d. gang
  19. Hari Bahadur gets his beard..... everyday.  
a. shave b. shaves c. shaving d. shaved
  20. The long story of heroic written in verse is.....  
a. novel b. story c. ballad d. epic
- End