

# BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY

## Unit Test-I (Shift:-I & II)

Programme: - CH/CM/IF/IS/EJ/ME

Semester: - I

Course: - **Basic. Science (22102 )**

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### Course: BasicChemistry(22102)

1)Metals lose electron from their lattice to become.....

- a)positive ion                      b)negative ion
- c)alkalies                      d)non-metals

2)Nonmetals gains from other atom& becomes.....

- a)positive ion                      b)negative ion
- b)acids                      d)metals

3)Complete transfer of one or more electrons between atoms constituting in forming.....

- a ) ionic bond                      b)covalent bond
- c) co-ordinate bond                      d)dative bond

4)When single atom provides both electron which are needed for completion of covalent bond then it leads to.....

- a)ionic bond                      b)covalent bond
- c)co-ordinate bond                      d) dative bond

5)Dative covalent bond is found in.....

- a)ammonia                      b)ammonium ion
- c)urea                      d) nitrogen



14)When a covalent bond is formed between hydrogen atom & a very electronegative atom ,  
then it is known as.....

- a) ionic bond                      b) hydrogen bond
- c) co-ordinate bond                      d) all of the above

15)Nitrogen molecule is an example of....

- a) single covalent bond                      b) double covalent bond
- c) triple covalent bond                      d) co-ordinate bond

16)Molecule which have permanent dipole are known as...

- a) polar                      b) dipolar
- c) nonpolar                      d) tripolar

17)On which factor , conductance of metals is responsible?

- a) ions                      b) delocalized electrons
- c) atomic number                      d) number of atoms

18)The difference between the number of atoms in a unit cell of BCC crystal

And FCC crystal is....

- a) 1                      b) 2
- c) 4                      d) 6

19)Tendency of atoms to acquire eight electrons in their valence shell is ...

- a) octet rule                      b) duplet rule
- c) triplate rule                      d) all of the above

20)Crystal lattice is actually.....

- a) sum of points                      b) array of points
- c) lines of points                      d) triangles of points

21)Unit cell is smallest building unit of.....

- a) crystal lattice                      b) liquids

c)gases d)none of the above

22)Which of the following is an amorphous solid?

a)diamondb)glass

c)sodium- chloride d)none of the above

23)The lattice site in pure crystal cannot be occupied by....

a)molecule b)ion

c)electron d)atom

24)The co-ordination number of BCC structure is....

a ) 4 b) 8

c) 2 d) 12

25)Substances which alter the rate of chemical reaction without undergoing any chemical change are called as....

a)polymers b)catalysts

b)products d) none of the above

26) Substances which reduces the effectiveness of catalysts are called ...

a)promoters b) auto- catalysts

c)inhibitors d)none of the above

27)When catalyst and reactants are in the same phase then it is called....

a)homogeneous catalysis b) heterogeneous catalysis

c)auto catalysis d)catalysis

28)Electron sea exists in

a)polar bond b)ionic bond

c)covalent bond d)metallic bond

29) Crystal lattice is known as....

- a) lattice triangle                      b) space lattice
- c) lattice line                              d) lattice array.

30) Na-Cl is an example of....

- a) ionic solid                              b) covalent solid
- c) metallic solid                              d) molecular solid

31) Usual property of ionic crystal is that they are ....

- a) stable                                      b) unstable
- c) gaseous form      d) compound forming

32) Which of the following is not category of catalysis?

- a) Homogeneous                              b) Heterogeneous
- c) Artificial                                      d) Enzymatic

33) Which one of the following is not a strong bond?

- a) Van der Waals bond      b) covalent bond
- c) Metallic bond                              d) Ionic bond

34) Coordination number in simple cubic crystal structure....

- a) 1    b) 2
- c) 3    d) 4

## Question Bank-Basic Physics(22102) (I scheme)

### Unit test-1

#### Unit 1:Units & Measurements (CO1)

1) Which of the following is not a requirement of a standard unit\_\_\_\_\_.

- |   |  |
|---|--|
| a) It should be same for all quantities | b) It should be universally accepted       |
| c) It should be well defined.           | d) It should be fixed with time and place. |

2) Which of the following is not a fundamental quantity\_\_\_\_\_.

- |           |         |
|-----------|---------|
| a) Length | b) Mass |
| c) Speed  | d) Time |

3) The length of the table is 3 meter, here 3 is the \_\_\_\_\_.

- |              |             |
|--------------|-------------|
| a) Standard  | b) Unit     |
| c) Magnitude | d) Quantity |

4) Pascal is S.I unit of\_\_\_\_\_.

- |            |             |
|------------|-------------|
| a) Force   | b) Pressure |
| c) Density | d) Momentum |

5) The system of units which are in use are\_\_\_\_\_.

- |                                |                                 |
|--------------------------------|---------------------------------|
| a) C.G.S, M.K.S, P.S.T And S.I | b) M.K.S, C.G.S., V.I.T And S.I |
| c) C.G.S, M.K.S, P.S.T And F.I | d) M.K.S, C.G.S., F.P.S And S.I |

6) In M.K.S system, the units of length, mass and time are

- |                                    |                               |
|------------------------------------|-------------------------------|
| a) Millisecond, kilohertz & second | b) Meter, Kilogram and second |
| c) Millimeter, kilobyte and second | d) Mile, kilogram and second  |

7)  $10^{-6}$  meter means

- |        |              |
|--------|--------------|
| a) 1mm | b) 1cm       |
| c) 1nm | d) 1 $\mu$ m |

8) 1 nanometer equals to

- |                      |                      |
|----------------------|----------------------|
| a) $10^{-9}\text{m}$ | b) $10^{-6}\text{m}$ |
| c) $10^{-3}\text{m}$ | d) $10^{-1}\text{m}$ |

9) Calculate corrected reading, if diameter of rod measured by screw gauge is 1.234cm (zero error of micrometer is +0.002cm) \_\_\_\_.

- |            |            |
|------------|------------|
| a) 1.322cm | b) 1.232cm |
| c) 1.223cm | d) 2.132cm |

10) Calculate percentage error in measurement of density of cube, if mass of cube has 3% error and length has 2% error.

- |       |       |
|-------|-------|
| a) 6% | b) 8% |
| c) 9% | d) 7% |

11) Dimensional formula for density is \_\_\_\_\_

- |                     |                        |
|---------------------|------------------------|
| a) $[L^1M^{-3}T^0]$ | b) $[L^{-3}M^{-1}T^0]$ |
| c) $[L^1M^0T^{-3}]$ | d) $[L^3M^{-1}T^0]$    |

12) Same person may get different readings because of human limitations, this comes under \_\_\_\_\_

- |                       |                   |
|-----------------------|-------------------|
| a) Instrumental error | b) Constant error |
| c) Random error       | d) Personal error |

13) If distance between Mumbai to Pune by train is 90.5km, in this, zero is \_\_\_\_\_

- |                       |                           |
|-----------------------|---------------------------|
| a) Not significant    | b) Significant            |
| c) May be significant | d) May not be significant |

14) The number of significant figure in measurement of  $2.34 \times 10^{11}$

- |      |      |
|------|------|
| a) 1 | b) 2 |
| c) 3 | d) 4 |

15)  $200\mu\text{F}$  is equal to \_\_\_\_\_.

- |                                 |                              |
|---------------------------------|------------------------------|
| a) $200 \times 10^{-9}\text{F}$ | b) $200 \times 10^6\text{F}$ |
| c) $200 \times 10^{-6}\text{F}$ | d) $200 \times 10^9\text{F}$ |

16) 2000pF is equal to\_\_\_\_\_.

- a)  $2000 \times 10^6 \text{ F}$
- c)  $2000 \times 10^9 \text{ F}$

- b)  $2000 \times 10^{-6} \text{ F}$
- d)  $2000 \times 10^{-12} \text{ F}$

17) Length of the table is 3 m. Convert this into mm

- a)  $3 \times 10^{-3} \text{ mm}$
- c)  $3 \times 10^{-2} \text{ mm}$

- b)  $3 \times 10^3 \text{ mm}$
- d)  $3 \times 10^2 \text{ mm}$

18) 220cm is equal to .....

- a)  $220 \times 10^{-2} \text{ m}$
- c)  $220 \times 10^3 \text{ m}$

- b)  $220 \times 10^2 \text{ m}$
- d)  $220 \times 10^{-3} \text{ m}$

## **Unit 2:Electricity,Magnetism& Semiconductors (CO2)**

19) Which of the following is a correct statement?

- a) Like charges attract and unlike charges repel
- b) Like as well as unlike charges attract each other
- c) Unlike charges attract each other and like charges repel each other
- d) Like as well as unlike charges repel each other

20) If two equal strength charges are placed in air..... .. apart from each other and if they exert a force of ..... on each other, then each charge is said to be a unit charge or charge of 1 coulomb.

- a)  $9 \times 10^9 \text{ m, 1N}$
- c)  $1 \text{ m, } 9 \times 10^9 \text{ N}$

- b)  $9 \times 10^{-9} \text{ m, 1N}$
- d)  $1 \text{ m, } 9 \times 10^{-9} \text{ N}$

21) Electric intensity.....

- i) Is not same at all the points inside the electric field
- ii) Is maximum near the charge
- iii) Depends upon strength of charge

- a) Only statement (i) is correct
- c) Only statement (iii) is correct

- b) Only statement (ii) is correct
- d) All statements are correct

22) Electric potential is.....

- a) Work done per unit charge
- c) Force per unit charge

- b) Charge per unit work
- d) Charge per unit force

23) Electric current is defined as the .....

- a) Product of electric charge and time
- c) Time per unit electric charge

- b) Force per unit positive charge
- d) Electric charge per unit time

24) Current 1A is given by.....

- a)  $1 \text{ A} = \frac{1 \text{ s}}{1 \text{ C}}$
- c)  $1 \text{ A} = 1 \text{ C} \times 1 \text{ s}$

- b)  $1 \text{ A} = \frac{1 \text{ C}}{1 \text{ s}}$
- d) None of these



- 25) The resistance of a conductor at constant temperature depends on .....
- a)Length
  - b)Cross-sectional area
  - c)Material of conductor
  - d)All of the above
- 26) The unit of specific resistance is.....
- a)Ohm/metre
  - b)Ohm-metre
  - c)Ohm/ampere
  - d)Ohm-ampere
- 27) Conductance is a reciprocal of .....and conductivity is reciprocal of.....this statement is.....
- a)Resistance , resistivity
  - b) Resistivity,Resistance
  - c)Current, potential
  - d)None of these
- 28) Ohm's law is valid when temperature of a conductor is.....
- a)not constant
  - b)constant
  - c)changing
  - d)none of these
- 29) Two like charges of  $20\mu\text{C}$  are placed 5cm apart in a medium of dielectric constant 2.5 Calculate force between them
- a)288N
  - b)144N
  - c)576N
  - d)1152N
- 30) Calculate the potential at a point 10 cm away from a point charge +1C in air
- a) $90 \times 10^9 \text{ volts}$
  - b) $9 \times 10^9 \text{ volts}$
  - c) $900 \times 10^9 \text{ volts}$
  - d)None of these