

## Chemistry 2011

**3. 2 g of a radioactive sanipic having half-life of 15 days was synthesised on 1st Jan 2009. The amount of the sample left behind on 1st March, 2009 (including both the days) is**

- (a) 0 g (b) 0.125g  
(c) 1g (d) 0.5g

**Ans.(b)**

**11. In the electrolysis of acidulated water, it is desired to obtain 1.12 cc of hydrogen per second under STP condition. The current to be passed is**

- (a) 1.93 A (b) 9.65 A  
(c) 19.3 A (d) 0.965 A

**Ans.(b)**

**12. The one which decreases with dilution is**

- (a) molar conductance  
(b) conductance  
(c) specific conductance  
(d) equivalent conductance

**Ans.(c)**

**13. Vapour pressure of pure 'A' is 70 mm of Hg at 25 C. It forms an ideal solution with 'B' in which mole fraction of A is 0.8. If the vapour pressure of the solution is 84 mm of hg at 25°C. the vapour pressure of pure 'B' at 25°C is**

- (a) 28mm (b) 56mm  
(c) 70mm (d) 140mm

**Ans.(d)**

**14. A 6% solution of urea is isotonic with**

- (a) 1 M solution of glucose
- (b) 0.05 M solution of glucose
- (c) 6% solution of glucose
- (d) 25% solution of glucose

**Ans.(a)**

**15. In countries nearer to polar region, the roads are sprinkled with  $\text{CaCl}_2$ . This is**

- (a) to minimise the wear and tear of the roads
- (b) to minimise the snow fall
- (c) to minimise pollution
- (d) to minimise the accumulation of dust on the road

**Ans.(a)**

**18. In electrophilic aromatic substitution reaction, the nitro group is *meta* directing because it**

- (a) decreases electron density at *ortho* and *para* positions
- (b) decreases electron density at *meta* position
- (c) increases electron density at *meta* position
- (d) increases electron density at *ortho* and *para* positions

**Ans.(a)**

**23. The compound which is not formed during the dry distillation of a mixture of calcium formate and calcium acetate is**

- (a) methanal (b) propanal
- (c) propanone (d) ethanal

**Ans.(b)**

**26. The compound which forms acetaldehyde when heated with dilute  $\text{NaOH}$ , is**

- (a) 1, 1-dichloroethane
- (b) 1, 1, 1 trichloroethane
- (c) 1-chloroethane
- (d) 1, 2-dichloroethane

**Ans.(a)**

**28. The one which has least iodine value is**

- (a) sunflower oil (b) ginger oil
- (c) ghee (d) groundnut oil

**Ans.(c)**

**29. A diabetic person carries a packet of glucose with him always, because**

- (a) glucose reduces the blood sugar level slowly
- (b) glucose increases the blood sugar level slowly
- (c) glucose reduces the blood sugar level
- (d) glucose increases the blood sugar level almost instantaneously

**Ans.(d)**

**30. There are 20 naturally occurring amino acids. The maximum number of peptides that can be obtained is**

- (a) 8000 (b) 6470
- (c) 7465 (d) 5360

**Ans.(a)**

**31. Cooking is fast in a pressure cooker, because**

- (a) food particles are effectively smashed
- (b) water boils at higher temperature inside the pressure cooker
- (c) food is cooked at constant volume
- (d) loss of heat due to radiation is minimum

**Ans.(b)**

**32. The ore that is concentrated by froth floatation process is**

- (a) zincite (b) cinnabar
- (c) bauxite (d) malachite

**Ans.(b)**

**37. The characteristic not related to alkali metal is**

- (a) high ionisation energy
- (b) their ions are isoelectronic with noble gases
- (c) low melting point
- (d) low electronegativity

**Ans.(a)**

**39. A covalent molecule AB has pyramidal structure. The number of lone pair and bond pair of electrons in the molecule are respectively**

- (a) 2 and 2 (b) 0 and 4
- (c) 3 and 1 (d) 1 and 3

**Ans.(d)**

**41. A bivalent metal has an equivalent mass of 32. The molecular mass of the metal nitrate is**

- (a) 182 (b) 168
- (c) 192 (d) 188

**Ans.(d)**

**45. S moles of SO<sub>2</sub> and S moles of O<sub>2</sub> are allowed to react. At equilibrium, it was found that 60% of SO<sub>2</sub> is used up. If the partial pressure of the equilibrium mixture is one atmosphere, the partial pressure of O<sub>2</sub> is**

- (a) 0.82 atm (b) 0.52 atm
- (c) 0.21 atm (d) 0.41 atm

**Ans.(d)**

**47. Rate of physical adsorption increases with**

- (a) decrease in surface area
- (b) decrease in temperature

- (c) decrease in pressure
- (d) increase in temperature

**Ans.(b)**

**49. Lucas test is (Associated with**

- (a) aldehydes (b) phenols
- (c) carboxylic acids (d) alcohols

**Ans.(d)**

**50. An organic compound on heating with CuO produces  $CO_2$  but no water. The organic compound may be**

- (a) carbon tetrachloride
- (b) chloroform
- (c) methane
- (d) ethyl iodide

**Ans.(a)**

**51. The condensation polymer among the following is**

- (a) rubber (b) protein
- (c) PVC (d) polyethylene

**Ans.(b)**

**53. The temperature of the slag zone in metallurgy of iron using blast furnace is**

- (1) 1200—1500 C (b) 1500-1600 C
- (c) 400-700 C (d) 800-1000 C

**Ans.(d)**

**54. The function of  $CaO$  in the contact process is**

- (a) to remove arsenic impurity
- (b) to detect colloidal impurity
- (c) to remove moisture
- (d) to remove dust particles

**Ans.(a)**

**55. In which of the following,  $\text{NH}_4^+$**

- (a) Tollens reagent
- (b) Nessler's reagent
- (c) Group reagent for basic radicals
- (d) Group reagent for basic radicals

**Ans.(b)**

**56. Argon is used**

- (a) in filling airships
- (b) to obtain low temperature
- (c) in high temperature welding
- (d) in radiotherapy for treatment of cancer

**Ans.(c)**

**57. The incorrect statement in respect of chromyl chloride test is**

- (a) formation of red vapours
- (b) formation of lead chromate
- (c) formation of chromyl chloride
- (d) liberation of chlorine

**Ans.(d)**