111/2014

1. The velocity at which the flow changes from one form to other is known as :

   (A) Average velocity
   (B) Super critical velocity
   (C) Critical velocity
   (D) Maximum velocity

2. Sending part of the condensed liquid back to the column is called :

   (A) Feed
   (B) Distillate
   (C) Rafinate
   (D) Reflux

3. A rotating cylinder of perforated sheet metal or wire screen is called :

   (A) Grizzlies
   (B) Trommel
   (C) Hummer screen
   (D) Cyclone separator

4. The element which receives the information from the measuring devices and decides what action should be taken is called :

   (A) Controller
   (B) Sensor
   (C) Transducer
   (D) Transmitter

5. When an input variable of a system changes, there is a time interval during which no effect is observed on the output of the system is called :

   (A) Dead time
   (B) Peak time
   (C) Interval time
   (D) Effective time

6. In cyclone separators which liquid is commonly used for solid suspension :

   (A) Alcohol
   (B) Water
   (C) Kerosene
   (D) Benzene

7. The locus of the intersection of the upper operating line and lower operating line is called :

   (A) Tie-line
   (B) c-line
   (C) d-line
   (D) q-line

8. Reynold's number can be represented by :

   (A) $\mu/Du\int$
   (B) $Du\int/u$
   (C) $Du\int/\mu$
   (D) $Du\mu/\int$

9. The point of minimum cross section from an orifice flow is called :

(A) Capillary   (B) Weirs   (C) Vena contracta   (D) Ventury

10. The efficiency of a single plate based on vapour-phase composition is called :

(A) Single plate efficiency   (B) Overall plate efficiency

(C) Column efficiency   (D) Murphree efficiency

11. Fine grinders are defined as those machines that can be made to give a product that will pass :

(A) 100 mesh screen   (B) 200 mesh screen

(C) 300 mesh screen   (D) 400 mesh screen

12. The most common digital converters used widely are :

(A) 8 bit or 12 bit   (B) 10 bit or 14 bit   (C) 15 bit or 20 bit   (D) 20 bit or 25 bit

13. Which maintenance is naturally undertaken before the interruption of production and major breakdown ?

(A) Preventive maintenance   (B) Predictive maintenance

(C) Annual maintenance   (D) Breakdown maintenance

14. Rittinger's law states that the energy required for the crushing process is proportional to :

(A) The mass   (B) The surface sheared

(C) The volume   (D) The density

15. The most widely used settling apparatus is :

(A) Extractor   (B) Distiller   (C) Dorr agitator   (D) Dorr thickner

16. The devices used to control the rate of flow of fluids in pipe lines are called :

(A) Pipe fittings   (B) Nipples   (C) Valves   (D) Plugs

17. For diluting dangerous concentration of flammable vapours, which of the following is utilized :

(A) Proper ventilation   (B) Proper lighting

(C) Proper covering   (D) Proper strength

18. Which one of the following is a positive displacement pump ?

   (A) Centrifugal pump   (B) Volute pump

   (C) Gear pump   (D) Turbine pump

19. The pounds of water vapour carried by 1 pound of dry air under any given set of conditions are called :

   (A) Saturated air   (B) Saturated humidity

   (C) Relative humidity   (D) Humidity

20. The solid is vigorously agitated by the fluid passing through the bed is called :

   (A) Filtration   (B) Fluidization   (C) Sedimentation   (D) Activation

21. Thermal conductivity can be represented by the letter :

   (A) T   (B) C   (C) K   (D) H

22. A reverse gas absorption process is :

   (A) Evaporation   (B) Distillation   (C) Extraction   (D) Stripping

23. The process of removing air bound in pump casing is called :

   (A) Cleaning   (B) Priming   (C) Pumping air   (D) Evaccuating

24. The mode of heat transfer that takes place in the form of electromagnetic waves is called :

   (A) Radiation   (B) Conduction   (C) Convection   (D) Electrolysis

25. Condensation occurs when a vapour contacts a surface which has a temperature below :

   (A) The saturation temperature of vapour

   (B) Latent heat of vapour

   (C) Super heated vapour

   (D) Critical temperature of vapour

26. The discharge pressure of a positive displacement single stage blower is :

    (A) 1.1 to 2 atm.   (B) 0.4 to 1 atm.   (C) 2.1 to 3 atm.   (D) 3.1 to 4 atm.

27. Expansion of HETP is :

    (A) Heat Exchanger with Temperature and Pressure

    (B) Heat Equivalent to Temperature and Pressure

    (C) Heat Engine with Temperature and Pressure

    (D) Height Equivalent to a Theoritical plate

28. In conduction, the driving force is :

    (A) The temperature drop between the solid and the liquid

    (B) The temperature drop between the solid and air

    (C) The temperature drop across the solid

    (D) The temperature drop between the solid and the solid at room temperature

29. Tubular heaters are also called :

    (A) Tube heater   (B) External heater (C) Heat exchanger (D) Reboiler

30. The amount of heat energy transferred by radiation per unit area of the surface in unit time
    is called :

    (A) Emissive power of the surface   (B) Radiative power of the surface

    (C) Conductive power of the surface (D) Absorptive power of the surface

31. An equipment that takes suction at a pressure below atmospheric and discharges against
    atmospheric pressure is called :

    (A) Piston pump   (B) Vacuum pump (C) Pressure pump (D) Plunger pump

32. How many classes of crystals are there ?

    (A) 2   (B) 3   (C) 4   (D) 6

33. A device used to remove condensate from steam heated equipment is :

(A) Coils   (B) Kettles   (C) Traps   (D) Condensers

34. The equation for overall heat transfer coefficient is :

(A) $q = UA\Delta T$ (B) $q = UA/\Delta T$ (C) $q = UAH/\Delta T$ (D) $q = UA\Delta T/2$

35. Thermal conductivity of Aluminium at 100°C is :

(A) 206 w/m°C   (B) 300 w/m°C   (C) 400 w/m°C   (D) 500 w/m°C

36. Which of the following is used as a continuous filter ?

(A) Plate and Frame   (B) Leaf filter

(C) Sieve filter   (D) Rotary drum filter

37. Boiling point elevation can be found out by using :

(A) Nusselt number (B) Prandle number (C) Duhring's rule (D) Charle's law

38. For blending miscible liquids which operation can be applied effectively ?

(A) Heating   (B) Agitation   (C) Cooling   (D) Distiling

39. Basic law of conduction is called :

(A) Fick's law   (B) Fourier's law   (C) Rittinger's law   (D) Boyle's law

40. Most commonly used type filter aid is :

(A) Silica   (B) Sand   (C) Soil   (D) Kiesulguhr

41. Joule mechanical equivalent of energy is :

(A) 4.814 J   (B) 4.184 J   (C) 8.414 J   (D) 8.184 J

42. Which of the following quantities will be an exact differential ?

(A) dw   (B) dq   (C) dG   (D) dP

43. Electron affinity is nearly zero for :

   (A)   C   (B)   Na   (C)   F   (D)   N

44. Variation of enthalpy of a reaction with temperature is given by equation :

   (A)   Kirchoffs   (B)   Clausius   (C)   Arrhenius   (D)   Gibbs

45. Bond order of NO^+ is :

   (A)   3.5   (B)   2.5   (C)   3   (D)   1.5

46. Unit of rate constant for zero order reaction is :

   (A) s^{-1} (B) $mol^{-1} l\, s^{-1}$ (C) $mol^2 l^{-2} s^{-1}$ (D) $mol\, l^{-1} s^{-1}$

47. Entropy of vapourisation of a liquid is approximately :

   (A)   18 J/mol K   (B)   88 J/mol K   (C)   68 J/mol K   (D)   48 J/mol K

48. A liquid is said to wet the walls of the vessel when adhesion is _____ than cohesion.

   (A)   equal   (B)   lesser   (C)   greater   (D)   none of these

49. Common name for 1, 3-dihydroxy benzene is :

   (A)   Catechol   (B)   Quinol   (C)   Cresol   (D)   Resorcinol

50. Stereoisomers that are not mirror images are called :

   (A)   Enantiomers   (B)   Diastereomers   (C)   Tautomers   (D)   Optical isomers

51. Zirconyl Alizarin S reagent can be used for the detection of :

   (A)   Nitrates   (B)   Sulphates   (C)   Fluorides   (D)   Chlorides

52. Hybridisation in $SnCl_2$ is :

   (A)   sp   (B) sp^3 (C) sp^2 (D) dsp^3

53. Reynold number is associated with _____ of liquids.

    (A) Refractive index   (B) Optical activity

    (C) Viscosity   (D) Surface tension

54. Optimum value of BOD is :

    (A) 1-3 mg/l (B) 4-6 mg/l (C) 6-10 mg/l (D) None of these

55. Blue baby syndrome is caused by :

    (A) Nitrates   (B) Carbonates   (C) Chlorides   (D) Cyanide

56. Electronegativity of P is approximately :

    (A) 1   (B) 3   (C) 3.5   (D) 2

57. Fundamental requirement for the maintenance of aquatic life is expressed as :

    (A) DO   (B) BOD   (C) COD   (D) None of these

58. For a zero order reaction, when initial concentration is doubled $t_{1/2}$ is :

    (A) halved   (B) doubled   (C) unchanged   (D) quadrupled

59. Eutrophication is caused by the presence of :

    (A) Carbonates   (B) Sulphates   (C) Phosphates   (D) Chlorides

60. Uppermost layer of the atmosphere is :

    (A) Troposphere   (B) Exosphere   (C) Mesosphere   (D) Stratosphere

61. Tolerable limit of noise level is :

    (A) 18 db   (B) 85 db   (C) 50 db   (D) 120 db

62. Ionic radii is minimum for :

    (A) N^{3-} (B) F^- (C) Na^+ (D) Al^{3+}

63. Which of the following is expected to have a pyramidal structure ?

(A) ClO_2^- (B) ClO_3^- (C) PO_4^{3-} (D) ClO_4^-

64. Minamata disease in Japan was a consequence of _____ Poisoning.

(A) Mercury   (B) Cyanide   (C) Lead   (D) Arsenic

65. Unit of Arrhenius exponential factor A is :

(A) J/Kmol   (B) KJ/mol   (C) mol/dm^3s (D) $dm^3/mol\ s$

66. Shape of H_3O^+ is :

(A) Tetrahedral   (B) Square planar   (C) Pyramidal   (D) T shape

67. Benzene hexachloride is commonly known as :

(A) Parathion   (B) Lindane   (C) DDT   (D) Malathion

68. Which of the following ions yield colourless solutions ?

(A) Fe^{3+} (B) Mn^{2+} (C) Ti^{3+} (D) Cu^+

69. Photochemical smog is caused by oxides of :

(A) Carbon   (B) Phosphorus   (C) Sulphur   (D) Nitrogen

70. Enthalpy of hydration is negative for the dissolution of :

(A) $CuSO_4$ (B) KCl (C) $NaNO_3$ (D) $CuSO_4.5\ H_2O$

71. Benzoic acid can be purified by :

(A) Sublimation   (B) Crystallisation   (C) Solvent extraction   (D) All of these

72. Phosphorus is estimated as its :

(A) H_3PO_4 (B) $[(NH_4)_3PO_4.12.MoO_3]$
(C) $(NH_4)_3PO_4$ (D) None of these

73. An example for a electrophile is :

(A) Hydride ion   (B) Water   (C) Ether   (D) Nitrene

74. Example for compound not showing enantiomerism :

(A) Tartaric acid   (B) 1, 3-dimethyl allene

(C) Lactic acid   (D) None of these

75. The order of basicity of amines $NH_3 < RNH_2 < R_2NH < R_3N$ may be attributed to _____ effect.

(A) inductive   (B) mesomeric

(C) hyperconjugative   (D) electromeric

76. Intermediate in pinacol-pinacolone rearrangement is :

(A) Carbocation   (B) Carbanion   (C) Carbene   (D) None of these

77. Stability of half filled orbital configuration is a consequence of :

(A) Hunds rule   (B) Aufbau principle

(C) Pauli's principle   (D) None of these

78. Chloroplatinic acid is used for the estimation of :

(A) Acids   (B) Chloride   (C) Bases   (D) Nitrogen

79. Steam distillation may be useful for the purification of :

(A) Benzene   (B) Benzoic acid   (C) Aniline   (D) Ethyl acetate

80. Energy required for placing two electrons in an orbital is termed _____ energy.

(A) exchange   (B) pairing   (C) promotional   (D) none of these

81. On which day the Ozone Day is observed every year ?

(A) May 31   (B) August 21   (C) September 16   (D) November 5

82. The Programme introduced by the Central Government for housing and slum development is :

   (A) IHSDP   (B) JRY   (C) MGNREGP   (D) PMRY

83. Which is the second highest mountain peak is South India ?

   (A) Nallamala   (B) Palconda   (C) Nanjaparva   (D) Dodabetta

84. Name the river that crosses the equator two times :

   (A) Amazon   (B) Nile   (C) Congo   (D) Ganges

85. The Loktak Lake is situated in which state ?

   (A) Meghalaya   (B) Manipur   (C) Mizoram   (D) Tripura

86. How many forest divisions are founded in Kerala ?

   (A) 45   (B) 39   (C) 47   (D) 35

87. Who is the present Chief Information Officer of the Central Information Commission ?

   (A) Sushma Singh   (B) Sushma Swaraj   (C) Vinod Ray   (D) P. Sadasivam

88. Name the winner of National Film Award 2012 for Best National Integration Film.

   (A) Spirit   (B) Bodyguard

   (C) Thanichallah njan   (D) Kaliyachan

89. Which country granted One Year temporary asylum for Edward Snowden in August 2013 ?

   (A) Hong Kong   (B) Russia   (C) Venezuela   (D) Britain

90. FIFA U-17 Foot Ball World Cup will be hosted by which country ?

   (A) India   (B) Chile   (C) Brazil   (D) Ukraine

91. Who is the founder of Wiki Leaks ?

    (A)   Bill Gates   (B)   Mark Zuckerberg

    (C)   Julian Asange   (D)   Larry Page

92. The first telegraph line introduced by Lord Dalhousie in 1853 ran between _____ .

    (A)   Bombay and Thane   (B)   Calcutta and Madras

    (C)   Bombay and Agra   (D)   Calcutta and Agra

93. The Royal Indian Navy Mutiny of 1946 was started at _____ .

    (A)   Bombay   (B)   Madras   (C)   Calcutta   (D)   Cochin

94. Name the social reformer who came to be known as 'Vidyasagar of the South'.

    (A)   Sree Narayana Guru   (B)   Veeresalingam

    (C)   Ayyankali   (D)   E.V. Ramaswami Naikar

95. Who was the founder of Atmavidya Sangam ?

    (A)   Swami Dayananda Saraswati   (B)   Ayyankali

    (C)   Vagbhadananda   (D)   Dr. Palpu

96. Who started the Malayalam daily Nasraani Deepika from Mannanam ?

    (A)   Mamman Mappila   (B)   Kuriakose Chaavara

    (C)   Philipose Thomas   (D)   Herman Gundert

97. Who was the first President of Travancore Devaswaom Board ?

    (A)   K.Kelappan   (B)   Pattom Thanupillai

    (C)   Sir C.P. Ramaswami Iyyer   (D)   Mannath Padmanabhan

98. The founder of Sadhujana Paripalana Sangham was :

    (A) Sree Narayana Guru   (B) Ayyankali

    (C) Vagbhadananda   (D) K. Madhavan Nair

99. The Civil Disobedience Movement was started on :

    (A) March 12, 1930   (B) April 6, 1930

    (C) April 12, 1930   (D) March 6, 1930

100. Who is the winner of the US Open (Tennis) Men's title 2013 ?

    (A) Rafael Nadaal   (B) Andy Murray

    (C) Roger Federer   (D) Djkovic

- o 0 o -