PART-B

Post Code: Technical Assistant (TA 02) – Chemical Engineering.,

Total No., of Questions: 50

Duration: 01 hour

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1. Fourier's law applies to the heat transfer by
   A. Convection
   B. Radiation
   C. Conduction
   D. all (a), (b) & (c)

2. In the equation $Q = UA\Delta t$; Δt is
   A. geometric mean temperature difference.
   B. arithmetic mean temperature difference.
   C. logarithmic mean temperature difference.
   D. the difference of average bulk temperatures of hot and cold fluids.

3. The steam ejector is used to
   A. remove condensate from the steam pipelines.
   B. create vacuum.
   C. superheat the steam.
   D. none of these.

4. In a heat exchanger, floating head is provided to
   A. facilitate cleaning of the exchanger.
   B. increase the heat transfer area.
   C. relieve stresses caused by thermal expansion.
   D. increase log mean temperature gradient.

5. Baffles in the shell side of a shell and tube heat exchanger

A. increase the cross-section of the shell side liquid.

B. force the liquid to flow parallel to the bank.

C. increase the shell side heat transfer co-efficient.

D. decrease the shell side heat transfer co-efficient.

6. The unit of heat transfer co-efficient in SI unit is

A. $J/M^2°K$

B. $W/m^2°K$

C. $W/m°K$

D. $J/m°K$

7. The number of kg vaporised per kg of steam fed to the evaporator is defined as

A. Capacity

B. rate of evaporation

C. Economy

D. rate of vaporisation

8. A backward feed multiple effect evaporator is better than forward feed for concentrating cold feed, because it provides

A. higher economy

B. lower capacity

C. both (a) & (b)

D. lower economy

9. Baffles are provided in heat exchangers to increase the

A. fouling factor

B. heat transfer area

C. heat transfer co-efficient

D. heat transfer rate

10. What is Nusselt number ?

A. $\frac{C_p \cdot \mu}{k}$

B. $\frac{hD}{k}$

C. $\frac{h \cdot C_p}{\mu}$

D. $\frac{C_p \cdot \mu}{h}$

11. Steam traps are provided in steam carrying pipelines to

A. condense steam.

B. release excess steam pressure by bleeding steam.

C. remove condensate and inert gases.

D. none of these.

12. Heat transfer rate per unit area is called

A. thermal conductivity

B. heat flux

C. heat transfer co-efficient

D. thermal diffusivity

13. Which of the following has the highest thermal conductivity ?

A. Brick

B. Air

C. Water

D. Silver

14. For specified tube outside diameter, higher BWG means higher

A. tube thickness

B. cross-sectional area

C. weight per unit length

D. none of these

15. The fluid property, due to which, mercury does not wet the glass is

A. surface tension

B. Viscosity

C. Cohesion

D. Adhesion

16. Head developed by a centrifugal pump depends on its

A. Speed

B. impeller diameter

C. both (a) and (b)

D. neither (a) nor (b)

17. Nominal size of the discharge pipe of a pump is usually _____ the nominal size of the inlet pipe.

A. smaller than

B. larger than

C. same as

D. Twice

18. The dimension of dynamic viscosity is

A. $ML^{-1}T^{-1}$

B. L^2T^{-1}

C. LT^{-2}

D. $ML^{-1}T^{-2}$

19. The ratio of inertial forces to elastic forces is called the _____ number.

A. Reynolds

B. Mach

C. Euler

D. Weber

20. For ideally incompressible fluid, the Mach number will be

A. 1.5

B. 1

C. 0

D. 5

21. An ideal fluid is

A. non-viscous

B. Incompressible

C. both (a) & (b)

D. neither (a) & (b)

22. A centrifugal pump has the following specifications:
Power = 4 H.P.; Speed = 800 rpm ; Head = 8 metres; Flow = 1000 litres/minutes.
If its speed is halved, the new discharge will be _____ litres/minute.

A. 500

B. 200

C. 1000

D. 750

23. Fenske equation determines the

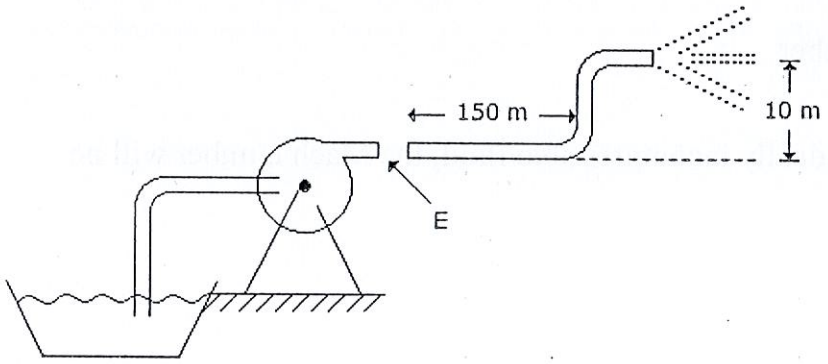
A. maximum number of ideal plates.

B. height of the distillation column.

C. minimum number of theoretical plates.

D. optimum reflux ratio.

24. A centrifugal pump is used to pump water through a horizontal distance of 150 m, and then raised to an overhead tank 10 m above. The pipe is smooth with an I.D of 50 mm. What head (m of water) must the pump generate at its exit (E) to deliver water at a flow rate of 0.001 m^3/s? The Fanning friction factor, f is 0.0062.



A. 10 m

B. 11 m

C. 12 m

D. 20 m

25. Which is the controlling factor for a drum drier?

A. Diffusion

B. Heat transfer

C. Both (a) and (b)

D. Neither (a) nor (b)

26. Drying operation under vacuum is carried out to

A. dry those materials which have very high unbound moisture content.

B. reduce drying temperature.

C. increase drying temperature.

D. dry materials having high bound moisture content.

27. Make up water is required in a cooling tower to replace the water lost by

A. Evaporation

B. Drift

C. blowdown and leakage

D. all (a), (b) and (c)

28. Agitator is provided in a crystalliser for

A. avoiding deposition on cooler surfaces.

B. formation of nuclei.

C. crystal growth.

D. all (a), (b) and (c).

29. The most common packing used in industrial operations is _____ rings.

A. Raschig

B. Lessing

C. cross-partition

D. single spiral

30. A slurry is to be dried to produce flaky solid. Which dryer would you recommend ?

A. Spray dryer

B. Drum dryer

C. Rotary dryer

D. Dielectric dryer

31. When the mixture to be distilled has a very high boiling point and the product material is heat sensitive, the separation technique to be used is _____ distillation.

A. Continuous

B. Steam

C. Azerotropic

D. none of these

32. In which of the following unit operations, the selectivity is an important parameter ?

A. Distillation

B. Solvent extraction

C. Absorption

D. None of these

33. Diameter of raschig rings used in packed tower in industry is normally around _____ inches.

A. 2

B. 8

C. 12

D. 18

34. Mass transfer co-efficient varies as $D_{AB}0.5$, according to the _____ theory.

A. Film

B. surface renewal

C. Penetration

D. none of these

35. Rayleigh equation applies to _____ distillation.

A. Differential

B. Flash

C. Equilibrium

D. Molecular

36. Short distance transportation of grain, gravel, sand, ash, asphalt etc. is done by using a _____ conveyor.

A. Flight

B. slat or drag

C. Ribbon

D. Screw

37. If dp is the equivalent diameter of a non-spherical particle, Vp its volume and sp its surface area, then its sphericity is Φs is defined by

A. $\Phi_s = 6\ V_p/d_p\ s_p$

B. $\Phi_s = V_p/d_p\ s_p$

C. $\Phi_s = 6\ d_p\ S_p/V_p$

D. $\Phi_s = d_p\ S_p/V_p$

38. Power required to drive a ball mill with a particular ball load is proportional to (where, D = diameter of ball mill)

A. D

B. $1/D$

C. $D^{2.5}$

D. $1/D^{2.5}$

39. Which of the following is a pressure filter ?

A. Leaf filter (Moore filter).

B. Plate and flame filter.

C. Rotary drum filter.

D. Sand filter.

40. Highly viscous liquids & pastes are agitated by

A. Propellers

B. turbine agitators

C. multiple blade paddles

D. none of these

41. Balls for ball mills are never made of

A. forged/cast steel

B. Lead

C. cast iron

D. alloy steel

42. 200 mesh screen means 200 openings per

A. cm^2

B. Cm

C. Inch

D. $inch^2$

43. Moore filter is a _____ filter.

A. Leaf

B. Press

C. Rotary

D. Sand

44. Use of baffles in agitators help in minimising the _____ tendency.

A. Swirling

B. Vortexing

C. both (a) & (b)

D. neither (a) nor (b)

45. Ribbon blenders are exclusively meant for

A. blending miscible liquids.

B. non-flowing powder and thin pastes.

C. bath mixing.

D. continuous mixing.

46. In constant pressure filtration,

A. resistance decreases with time

B. rate of filtration is constant

C. rate of filtration increases with time

D. rate of filtration decreases with time

47. Which of the following is not used as a filter medium in case of corrosive liquids ?

A. Nylon

B. Glass cloth

C. Metal cloth of monel or stainless steel

D. Cotton fabric

48. Which of the following is an undesirable dynamic characteristic of an instrument ?

A. Reproducibility

B. Dead zone

C. Time lag

D. Static error

49. Working principle of radiation pyrometer is based on the

A. Wien's law

B. Kirchoffs law

C. Stafan-Boltzman law

D. Seebeck effect

50. Continuous shell temperature measurement in a liquid-liquid heat exchanger is done by a

A. Thermocouple

B. reistance thermometer

C. mercury in glass thermometer

D. vapor pressure thermometer

TA-04 HORTICULTURE

Objective questions for Technical Assistant

1.	Vebena, Petunia and Zebrina are suitable for			
	a) Trophy	b) Topiary	c) Hanging Baskets	d) Carpet Bedding
2.	''Nature in Miniature" is known as			
	a) Japanese garden	b) English garden	c) Bonsai garden	d) Persian garden
3.	French Garden Architect			
	a) L.Hogben	b) G.Jeckyll	c) Le Notre	d) Edwin
4.	'Baradari' is a common feature of			
	a) Moghul garden	b) Japanese garden	c) Persian garden	d) English garden
5.	Lawn Mower was invented by			
	a) W.Robinson	b) Edwin Budding	c) Le Notre	d) W.Kent
6.	Which of the following is not included in Japanese garden			
	a) Hill garden	b) Tea garden	c) Sand garden	d) Vertical garden
7.	Offsets are very common to propagate			
	a) Agave	b) Aloe	c) Pandanus	d) All the above
8.	Most common rooting hormone is			
	a) NAA	b) IBA	c) IAA	d) GA
9.	Shrubs when planted at regular interval to form a thick screen is known as			
	a) Edge	b) Hedge	c) Shrubbery	d) All the above
10.	Area of garden devoted exclusively to shrubs is known as			
	a) Border	b) Shrubbery	c) Edge	d) Hedge
11.	Informal edging made from			
	a) Stones	b) Concrete	c) Plants	d) All the above
12.	Dieffenbachia is propagated by			
	a) Corms	b) Cane cuttings	c) Suckers	d) All the above
13.	The arial bulblets produced in the axial of the leaves			
	a) Bulb	b) Scales	c) offsets	d) Bulbils
14.	The practice of shifting an over crowded potted plants to a new big pot is called as			
	a) Potting	b) Repotting	c) Pricking	d) None of the above
15.	The structure used for rooting of large number of cuttings under constant humid atmosphere			

	a) Mist chamber	b) Hot beds	c) Cold frames	d) Lath house
16.	Which of the following is cool colour			
	a) Blue	b) Red	c) White	d) Gray
17.	Plant growth regulator acts as a weedicide at higher concentrations			
	a) GA	b) 2, 4 -D	c) ABA	d) Ethylene
18.	Most common disease at seedling stage			
	a) Blight	b) Root rot	c) Damping off	d) Wilt
19.	Which of the following is an indoor plant			
	a) Aglaonema	b) Spider lilly	c) Duranta	d) Wadealia
20.	Casual organism for powdery mildew of rose			
	a) Marmor flaxida	*b) Sphaerotheca pannosa*	*c) Botrytis sparsa*	*d) Uromyces fabi*
21.	The tree which is planted for pollution control			
	a) Saraca indica	*b) Cassia fistula*	*c) Bahinia purpurea*	*d) Ficus infectoria*
22.	Heart of Garden			
	a) Shrub	b) Lawn	c) Tree	d) Pergola
23.	Brindhavan garden is located at			
	a) Karnataka	b) Tamil Nadu	c) Kerala	d) Telangana
24.	The cultural practice which help the grass anchor itself securely and keep the surface leveled			
	a) Mowing	b) Rolling	c) Leveling	d) Scarping
25.	Bio aesthetic panning is the term propagated by			
	a) G.S.Randhawa	b) M.S.Randhawa	c) L. Hogben	d) Edwin
26.	Which of the following is used for flower beds			
	a) Zinnia	b) Hibiscus	c) Alstroemeria	d) Jasmine
27.	Fairy ring spot of lawn is due to			
	a) Virus	b) Bacteria	c) Fungus	d) Nematodes
28.	*Delonix regia* is commonly known as			
	a) Gulmohar	b) Golden shower	c) Flame of forest	d) Devils tree
29.	Soil sterilization is done by			
	a) Formaldehyde	b) Chloropycrin	c) Methyl bromide	d) All the above
30.	The term used for transferring the young seedlings to another pan or tray			
	a) Transplanting	b) Pricking	c) Repotting	d) Burlapping

31.	Repetition of garden components in a garden is known as			
	a) Axis	b) Rhythm	c) Proportion	d) Balance
32.	The colour scheme of using closely related or harmonious colours			
	a) Monochromatic	b) Analogues	c) Complementary	d) Contrast
33.	Bougainvillea climbs over a support using			
	a) Thorns	b) Tendrils	c) Rootlets	d) Modified leaf
34.	-------can be defined as the green carpet for landscape			
	a) Carpet bed	b) Lawn	c) Edge	d) Hedga
35.	Quickest method of lawn establishment			
	a) Turfing	b) Seeding	c) Turf plastering	d) Dibbling
36.	Winter flowering annuals are sown during			
	a) Feb- Mar	b) Apr- june	c) Jul-Aug	d) Sep-Oct
37.	Conservation of water through creative landscaping is known as			
	a) Xeriscaping	b) Water harvesting	c) Vertical garden	d) Bonsai
38.	The ideal size for annual flower bed is			
	a) 100 cm × 200 cm	b) 90 cm × 120 cm	c) 120 cm × 90 cm	d) 80 cm × 100 cm
39.	Ornamental plant group which is suitable for rock garden is			
	a) Hardy annuals	b) Cacti & Succulents	c) Shrubs	d) Climbers
40.	Annual suitable for shade			
	a) Cineraria	b) Cosmos	c) Zinnia	d) Balsam
41.	Flower colour of Delphinium			
	a) White	b) Blue	c) Yellow	d) Pink
42.	Optimum spacing for tall annuals planting is			
	a) 30 cm × 40 cm	b) 40 cm × 50 cm	c) 40 cm × 20 cm	10 cm × 20 cm
43.	The plant suitable for topiary			
	a) *Thuja orientalis*	b) Hibiscus sp.	c) *Vinca rosea*	d) *Nerium oleander*
44.	Aromatic shrub (Fragrant)			

	a) *Jasminum grandiflorum*	b) *Allamanda neriifolia*	c) *Cassia allata*	d) *Barleria cristata*
45.	China aster is an winter annual propagated by			
	a) Seeds	b) Terminal Cuttings	c) Grafting	d) Layering
46.	Foliage annual is			
	a) Zinnia	b) Ageratum	c) Kochia	d) Celosia
47.	The optimum pH of the media for indoor plants			
	a) 4.5 -5.5	b) 5.5-6.5	c) 6.5 -7.0	d) 7.5-8.0
48.	Major pest of Chrysanthemum is			
	a) Ant	b) Leaf miner	c) Caterpillar	d) Beetles
49.	Removal of unwanted, disease affected, non reproductive shoots in a garden is known as			
	a) Training	b) Pinching	c) Pruning	d) None
50.	Garden lanterns are ----- component in a garden			
	a) Plant	b) Non- plant	c) Both	d) none

CHEMISTRY
PART - B.

TA 05 / TA 12

1. $Ni(CO)_4$ and $[Pt(NH_3)_4]^{2+}$ are _____ and _____ complexes respectively.

a) Tetrahedral and square planar

b) Square planar and tetrahedral

c) Trigonal planar and square planar

d) Tetrahedral and octahedral

2. Diborane has a _____ bond.

a) 3 centre-2 electron b) 3 centre-3 electron c) 3 centre -4 electron d) 3 centre-1 electron

3. Which of the following compounds show geometrical isomerism?

a) Isobutyraldehyde b) 1-Butene c) 1,1-dichloroethylene d) 1-chloro-2-bromoethylene

4. The IUPAC name of $[Pt(py)_4][PtCl_4]$ is

a) Tetrapyridineplatinum(II)tetrachloroplatinum(II)

b) Tetrapyridineplatinate(II)tetrachloroplatinate(II)

c) Tetrapyridineplatinum(II)tetrachloroplatinate(II)

d) Tetrapyridineplatinum(I)tetrachloroplatinate(I)

5. Which of the following properties decreases down the group in the periodic table?

a) Ionization enthalpy b) Atomic radius c) Valency d) All the above

6. The reaction of acetaldehyde with the Grignard reagent[CH_3MgX] followed by hydrolysis gives

a) Methanol b) Ethanol c) Propyl alcohol d) Isopropyl alcohol

7. The catalyst used in Friedel Crafts acylation is

a) Anhydrous $AlCl_3$ b) $NaNH_2$ c) Pt d) Cu

8. 2 $C_6H_5CHO \xrightarrow{KOH} C_6H_5CH_2OH + C_6H_5COO^-K^+$ is an example of

a) Aldol condensation b) Claisen reaction c) Canizzaro reaction d) Grignard addition

9. _____ is an example of a hexose sugar

a) Galactose b) Maltose s c) Sucrose d)Starch

10. For strong electrolytes NaOH, NaCl and $BaCl_2$, the molar ionic conductances at infinite dilution are 248.1×10^{-4}, 126.5×10^{-4} and 280×10^{-4} Sm^2mol^{-1} respectively. Calculate Λ°_m for $Ba(OH)_2$ [Answer in Sm^2mol^{-1}]

a) 523.2×10^{-4} b) 623.2×10^{-4} c) 723.2×10^{-4} d) 823.2×10^{-4}

11. Heat supplied to a Carnot engine is 1897.8 kJ. How much useful work can be done by the engine which works between 0°C and 100°C?

a) 708.6 kJ b) 708.6 J c) 508.7 kJ d) 508.7 J

12. The unit for a third order reaction is

a) $l\ mol^{-1}s^{-1}$ b)$l^2\ mol^{-2}s^{-1}$ c) $l^{-2}\ mol^2\ s^{-1}$ d)$l^{-1}mol\ s^{-1}$

13. For the equilibrium reaction $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$

a) Kp = Kc b) Kp> Kc c)Kp<Kc d)$Kp = (Kc)^{-1}$

14. Which is the correct Nernst equation for the redox reaction $O + ne^- \rightleftharpoons R$?

a) $E = Eo - \frac{RT}{nF} \ln \frac{[O]}{[R]}$

b) $\frac{[O]}{[R]} = e^{\frac{nF\,(E-Eo)}{RT}}$

c) $\frac{[O]}{[R]} = e^{\frac{-nF\,(E-Eo)}{RT}}$

d) $\frac{[O]}{[R]} = e^{\frac{nF\,(E+Eo)}{RT}}$

15. The region in the electromagnetic spectrum with the lowest frequency is

a) X Ray b) IR c) RF d)Microwave

16. A Mc Lafferty Rearrangement in mass spectroscopy requires the migration of a _____.

a) α- Hydrogen b) β- Hydrogen c) γ- Hydrogen d) δ- Hydrogen

17. An example of a Sulphur containing amino acid is

a) Methionine b) Arginine c) Tryptophan d) Lysine

18. Which of the following is a Phenol-Formaldehyde resin?

a) Nylon b) Bakelite c) Gutta-percha d) Gun cotton

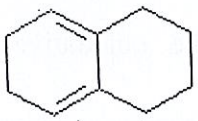
19. Which element burns green when introduced to a flame?

a) Ca b) Ba c)Na d) Mg

20. The technique in which the weight of the substance in an environment heated or cooled at controlled rates is recorded as a function of time or temperature is called

a) DSC b) TGA c)Polarimetry d) Chromatography

21. What is the λ_{max} for the following compound?



a) 234 nm b) 244 nm c) 273 nm d) 283nm

22. Which of the following statements is false?

a) The repeat unit in natural rubber is isoprene

b) Both starch and cellulose are polymers of glucose

c)Artificial silk is derived from cellulose

d)Nylon-66 is an example of elastomer

23. Of the following which one is classified as polyester polymer?

a)Nylon 6,6 b)Bakelite c)terylene d)Melamine

24. Strong covalent bonds exists between polymer chains in _____ .

a)Thermoplasts b) Thermosets c) Elastomers d) All polymers

25. The catayst used for the polymerrization of olefins is

a) Ziegler-natta catalyst
b) Wilkinson's catalyst
c) Pd- catalyst
d) Zeise's salt complex

26. A polymer which has bette light transmission properties than even glass is

a) Perspex b) Bakelite c) Buna-S d) Poly(ethyl acrylate)

27. In gas chromatography, the basis for separation of the components is the difference in

a) Partition coefficients b) Conductivity c) Molecular weight d) Molarity

28. Which of the following statements about chromatography is correct?

a) Paper chromatography and gas chromatography are both routinely used for qualitative analysis only.

b) Paper chromatography is usually considered to be quantitative only, while gas chromatography can be qualitative or quantitative.

c) Paper chromatography is usually considered to be qualitative only, while gas chromatography can be qualitative or quantitative.

d) Paper chromatography and gas chromatography are both routinely used for quantitative analysis only.

29. In fractional distillation, a mixture of liquids is separated based on their

a) boiling point b) solubility c) density d) chemical composition

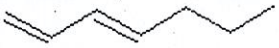
30. Gibbs phase rule for general system:

a) P+F=C-1 b) P+F=C+1 c) P+F=C-2 d) P+F=C+2

31. Indicate which spectral technique would best be used to distinguish between the following compounds

a)

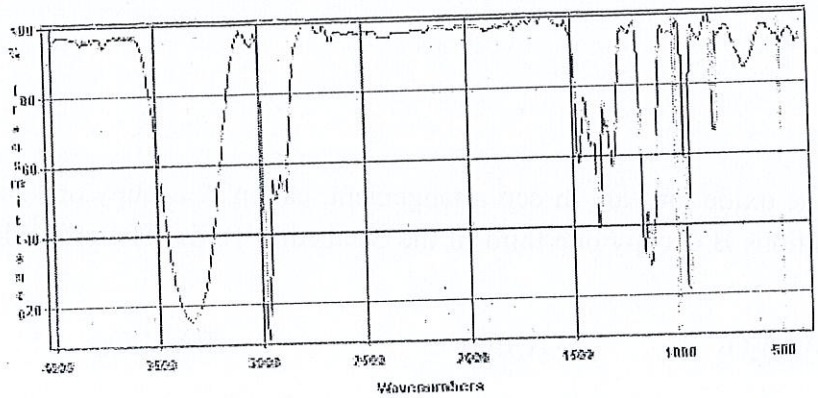
b)

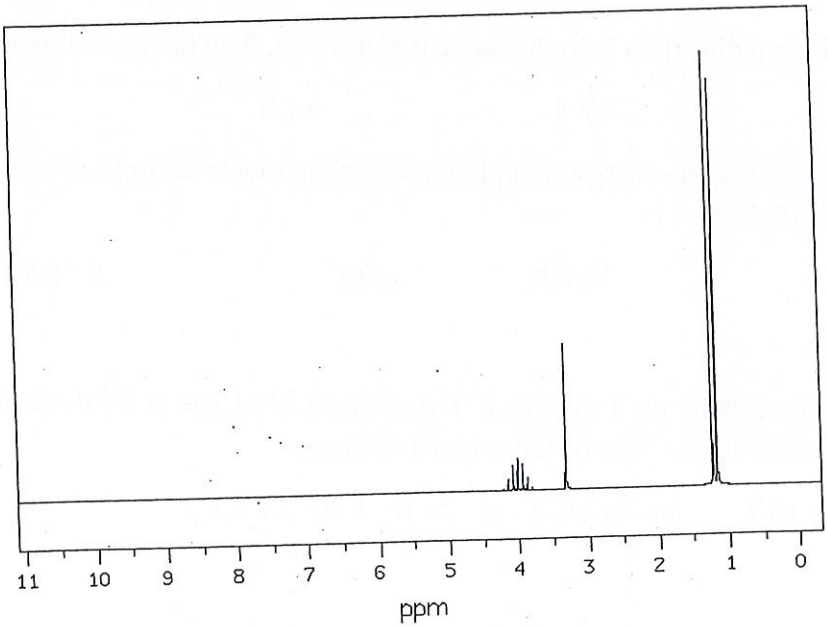


c)

d)

32. What is the structure of the compound that gives the following infrared and PMR spectra?





a) b) c) d)

33. The ionic size of the isoelectronic varies in the order.

a) $F^- > Na^+ > Mg^{2+} > Al^{3+}$

b) $Mg^{2+} > Al^{3+} > F^- > Na^+$

c) $F^- < Na^+ < Mg^{2+} < Al^{3+}$

d) $F^- > Al^{3+} > Mg^{2+} > Na^+$

34. in a certain solid, the oxide ions are in ccp arrangement, cationsA occupy one-sixth of the tetrahedral voids and cations B occupy one third of the octahedral voids. The probable formula of the compound.

a) ABO_3 b) AB_2O_3 c) A_2BO_3 d) $A_2B_2O_3$

35. If the radius ratio is in the range 0.414-0.732, then the co-ordination no. of the cation is

a) 2 b) 4 c) 6 d) 8

36. Calculate the energy of a photon associated with the light of wavelength of 200nm (Answer in 10-19 J)

a) 9.9 b) 8.8 c) 9.8 d) 6.8

37. Work done on a system if 1 mol of an ideal gas at 300K is compressed isothermally and reversibly to one-fifth of the original volume.

a) 4×10^3 J b) -4×10^3 J c) 2×10^3 J d) -2×10^3 J

38. In SN1 reactions, the RDS is

a) Formation of carbocation
b) Formation of carbanion
c) Attack of nucleophile on carbocation
d) Attack of electrophile on carbanion

39.The addition of HBr to propene follows

a) Anti-Markownikoff's rule b) Markowwnikoff's rule

c)Hoffman rule d) Saytzeff rule

40.Oxidation of amines with alkaline $KMnO_4$ gives

a) Alcohols b) Nitro compounds c) Aldehydes d) ketones

_____ is used in the Wolf Kishner reduction reaction

a) NH_2NH_2/base b) NBS/CCl_4 c) H_2, Pd/$BaSO_4$ d) $ZnCl_2$

41. The Reimer Tiemann reaction involves the formation of _____ intermendiate

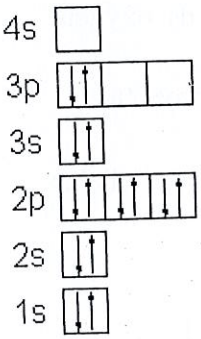
a)Carbene b) Carbanion c) Free Radical d) carbocation

42. Among the following ions, which one has the highest paramagnetism ?

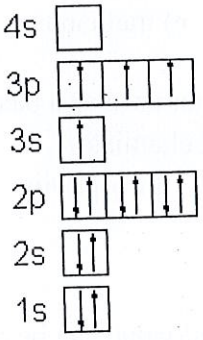
(a) $[Cr(H_2O)_6]^{3+}$ b) $[Fe(H_2O)_6]^{2+}$ c) $[Cu(H_2O)_6]^{2+}$ d) $[Zn(H_2O)_6]^{2+}$

43. Which of the following orbital box diagrams represents silicon, which has 14 electrons?

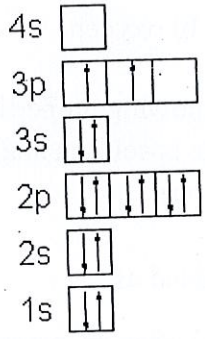
(a)



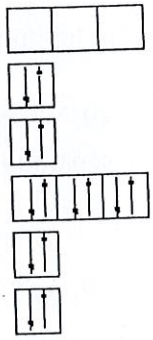
(b)



(c)



(d)



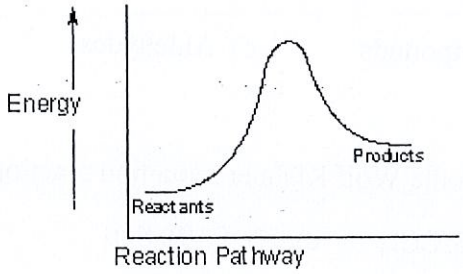
44. The atom formed by the beta decay of carbon-14 is

a) oxygen-18 b) beryllium-10 c) boron-14 c) nitrogen-14

45. Which of the following elements has the greatest electronegativity?

a) Si b) P c)N d)O

46. The following reaction coordinate diagram represents...



a) Endothermic reaction b)Exothermic reaction

c) Neither endothermic nor exothermic d) A reaction in which a catalyst is used.

47. What is the molecular geometry for ammonia (NH_3)?

a) saw horse b) trigonal planar c)tetradedral d) pyramidal

48. Which of the following is the most suitable gas to use as a carrier gas in a gas chromatogram?

a) helium b) oxygen c) methane d) oxygen

49. Which of the following properties is not used as a basis for physical separation of analyte species in analytical chemistry?

a)mass b)polarity c)molar absorptivity d)size

50. Accuracy is defined as:

a)A measure of how often an experimental value can be repeated.
b)The closeness of a measured value to the real value.
c)The number of significant figures used in a measurement.
d)None of these

Post Code: Technical Assistant TA 06 & TA 09

PART – B

Answer all (50 X 1 = 50 marks) **Duration: 1 Hour**

1. What is the smallest and largest font size available in Font Size tool on formatting toolbar?

   a. 8 and 72 b. 8 and 68 c. 6 and 72 d. 6 and 68

2. What is the function of Ctrl + B in MS-Word?

   a. It converts selected text into the next larger size of the same font

   b. It adds a line break to the document

   c. It makes the selected text bold

   d. It applies Italic formatting t the selected text

3. Which file starts MS Word?

   a. Word.exe b. Msword.exe c. Word2003.exe d. Winword.exe

4. WWW stands for _____

   a. World Whole Web b. Wide World Web c. Web World Wide d. World Wide Web

5. _____ are the components of Central Processing Unit (CPU)

   a. Arithmetic logic unit, Mouse

   b. Arithmetic logic unit, Control unit

   c. Arithmetic logic unit, Integrated Circuits

   d. Control Unit, Monitor

6. RAM is located in _____

   a. Expansion Board b. External Drive c. Mother Board d. All of above

7. Full form of URL is _____

   a. Uniform Resource Locator b. Uniform Resource Link

   c. Uniform Registered Link d. Unified Resource Link

8. _____ program is run by BIOS to check hardware components are working properly while computer is turned ON ?

   a. DMOS b. POST c. CMOS d. RIP

9. BIOS is used for _____
   a. Updating system information on network
   b. Loading operating system
   c. It helps in routing
   d. It take inputs from keywords and other devices

10. If CPU executes multiple programs simultaneously, it will be known as _____
    a. Multiprocessing b. Multitasking c. Timesharing d. Multiprogramming

11. _____ is collection of consecutive memory locations used to store values of same data type
    a. function b. pointers c. arrays d. structures

12. If you pass an array as an argument to a function, what actually gets passed?
    a. First element of the array b. Values of elements in the array
    c. Address of the last element in the array d. Address of the first element in the array

13. The method of communication in which transmission takes place in both directions, but only one direction at a time is called
    a. Simplex b. Full Simplex c. Half Duplex d. Full Duplex

14. If one link fails, only that link is affected. All other links remain active. Which topology does this?
    a. Mesh b. Ring c. Bus d. Star

15. _____ very useful in situation when data have to stored and then retrieved in reverse order.
    a. Stack b.Queue c. List d. Linked list

16. Which of the following is not a limitation of binary search algorithm?
    a. must use a sorted array
    b. requirement of sorted array is expensive when a lot of insertion and deletions are needed
    c. there must be a mechanism to access middle element directly
    d. binary search algorithm is not efficient when the data elements are more than 1000.

17 .The quick sort algorithm exploit _____ design technique
    a. Greedy b. Dynamic programming c. Divide and Conquer d. Backtracking

18. The postfix form of A*B+C/D is?
    a. *AB/CD+
    b. AB*CD/+
    c. A*BC+/D
    d. ABCD+/*

Post Code: Technical Assistant TA 06 & TA 09

19. The new operator in Java _____
    a. returns a pointer to a variable
    b. creates a variable called new
    c. obtains memory for a new variable
    d. returns how much memory is available

20. The java compiler
    a. creates executable file
    b. translates source code to bytecode
    c. creates object files
    d. translates source code to unicode

21. In a relational model, relations are termed as _____
    a. Tuples b. Attributes c. Tables d. Rows

22. The language that is the defacto standard for interfacing application programs with relational database system is _____
    a. Oracle b. SQL c. MySQL d. 4GL

23. _____ key represents relationship between tables is called
    a. Primary key b. Secondary key c. Foreign key d. Candidate key

24. In E-R diagram relationship type is represented by
    a. Ellipse b. Rectangle c. Dashed Ellipse d. Diamond

25. _____ is not a term that describes the collection of operating system programs
    a. Monitor b. Kernel c. Supervisor d. Server

26. The wait operation of the semaphore basically works on the basic _____ system call.
    a. stop() b. block() c. hold() d. wait()

27. To avoid the race condition, the number of processes that may be simultaneously inside the critical section is
    a. 12 b. 3 c. 1 d.0

28. HTML tags define
    a. the data types of elements of a document
    b. Presentation of specified elements of a document
    c. The contents of the document
    d. The structure of the document

29. A class is _____
    a. a group of objects

b. template for objects of a particular type
c. a class of objects
d. a classification of objects

30. Normalization is a process of restructuring a relation to _____
a. minimize duplication of data in a database b. maximize duplication of data to ensure reliability
c. make it of uniform size d. allow addition of data

31. Software Configuration Management is the discipline for systematically controlling _____
a. the changes due to the evolution of work products as the project proceeds
b. the changes due to defects and then fixed
c. the changes due to requirement changes
d. all of the above

32. _____ testing is done by the user of the system.
a. Acceptance b. Unit c. Regression d. Compatibility

33. In computers, subtraction is generally carried out by
a. 9's complement b. 10's complement c. 1's complement d. 2's complement

34. The circuit used to store one bit of data is known as
a. Register b. Encoder c. Decoder d. Flip Flop

35. Logic gates with a set of input and outputs is arrangement of
a. Combinational circuit b. Logic circuit c. Design circuits d. Register

36. A combinational logic circuit which sends data coming from a single source to two or more separate destinations is _____
a. Decoder b.Encoder c.Multiplexer d. Demultiplexer

37. A page fault _____
a. Occurs when there is an error in a specific page
b. Occurs when a program accesses a page of main memory
c. Occurs when a program accesses a page not currently in main memory.
d. Occurs when a program accesses a page belonging to another program.

38. _____ register keeps tracks of the instructions stored in program stored in memory.
a. AR (Address Register) b. XR (Index Register) c. PC (Program Counter) d. AC (Accumulator)

39. The worst type of coupling is _____
a. Data coupling. b.control coupling c. stamp coupling. d. content coupling.

40. Requirements can be refined using
a. The waterfall model b. prototyping model c. the evolutionary model d. the spiral model

41. FP-based estimation techniques require problem decomposition based on _____
a. information domain values b. project schedule c. software functions d. process activities

42. _____ is a virtual table that draws its data from the result of an SQL SELECT statement.
a. View b. Synonym c. Sequence d. Transaction

43. A car covers a distance of 1204 km in 28 hours. What is the speed of the car?
a. 61 kmph b. 43 kmph c. 56 kmph d. Cannot be determined

44. In Microprocessor one of the operands holds a special register called
a. Accumulator b. Dedicated c. Calculator d. None of these

45. Which one of the following is lightweight?
a. Process b. Job c. Thread d. Job

46. XOR will give a high output if the two inputs are
a. 0. 0 b. 1. 1 c. 0. 1 d. None of these

47. The IP protocol is unreliable due to which of the following reason(s)
a. Some packets may be lost b. Packets may arrive out of order
c. Duplicate packets may be generated d. All of these

48. Address 192.5.48.3 belongs to _____
a. class A b.class B c. class C d.class D

48. Which one of the following is an error reporting protocol?
a.ARP b.ICMP c.TCP d.UDP

49. The NAND gate output will be low if the two inputs are
a. 0. 0 b.0. 1 c.1. 0 d.1, 1

50. The decimal equivalent of hex number 1A53 is
a. 6793 b. 6739 c.6973 d. 6379

Multiple Choice Questions in Biochemistry

Answer all the questions: all questions carry equal marks

Choose the right answer:

1. An example of an Imino acid is
   a) Proline b) Histidine c) Glycine d) tryptophan
2. The R group for alanine is
   a) carboxyl group b) methyl group c) hydroxyl group d)amide group
3. Amylopectin has glucose bound to each other by
   a) 1 -4 linkage b) 1-6 linkage c) 1 – 2 linkage d) 1-4 1nd 1-6 linkage
4. The pace setter for glycolysis is
   a) aldolase b) hexokinase c) phosphofructokinase d) pyruvate kinase
5. The number of ATPs during anaerobic glycolysis of one glucose molecule is
   a) 12 b) 2 c) 8 d) 36
6. The general formula for carbohydrate is
   a) CnH_2nOn b) CHO c) $C_{2n}H_2O$ d) CHO_2
7. An example of essentiai fatty acid is
   a) Oleic acid b) Stearic acid c) Linoleic acid d) Myristic acid
8. Pick out the hydrophobic amino acid
   a) Tyrosine b) Threonine c) Cysteine d) Phenylalanine
9. The number of peptide bonds in a nanopeptide are
   a) nine b) ten c) eight d) two
10. A sulphur containing hydrophobic amino acid is
    a) Cysteine b) Methionine c) Histidine d) lysine
11. A Psi bond in a polypeptide chain is between
    a) N and Cα b) C and Cα c) C and O d) N and R group
12. The protein part of the enzyme is called
    a) Apoenzyme b)Holoenzyme c) Coenzyme d) Ribozyme
13. Nucleic acids that have higher Tm is due to
    a) Purines b) high AT content c) high GC content d) Pyrimidines

14. The backbone of a polypeptide chain is made up of

a) sugar -phosphate b) base - sugar c) phosphate - base d) base- sugar- phosphate

15. The stationary phase in Paper chromatography is

a) Ninhydrin b) butanol c) paper d) water

16. The vitamin present in NADH is

a) Riboflavin b) Niacin c) Thiamine d) Biotin

17. Deficiency of calories leads to the disease

a) Marasmus b) Kwashiorkor c) Scurvy d) Rickets

18. pH is defined as

a) $[H^+]$ b) $-\log[H^+]$ c) $-\ln[H^+]$ d) $-\log[1/H^+]$

19. The pH of blood is

a) 7.0 b) 6.8 c) 7.4 d) 8.5

20. During the process of osmosis

a) solvent diffuses into solution b) solute diffuses into solvent

c) solute diffuses into solution d)solute and solvent diffuse into each other

21. Sedimentation is measured in the following units

a) specific volume V b) sedimentation constant c) Svedberg d) Bernst

22. Kathrometer is a detector in

a) TLC b) Gas chromatography c) ion exchange chromatography d)Affinity chromatography

23. Rf is

a) Resolution front b) reading frame c) revolving forum d) resting film

24. D-Glucose and D-Fructose differ in their reactions with

a) phenyl hydrazine b) Benedict's reagent c) Barfoed's reagent d) Bromine water

25. One irreversible enzyme in gluconeogenesis is

a) Glucose 6 phosphatase b) aldolase c) Glucokinase d) pyruvate kinase

26. Cellulose and starch differ in the

a) monomers b) glycosidic linkage c) source of production d) length of the chain

27. The coenzyme involved in glycogen synthesis is

a) NAD b) FMN c) UTP d) TPP

28. The normal fasting glucose in 100 ml of blood is

a) 100mg b) 80 mg c) 130 mg d) 40 mg

29. 18:1;9 is the notation for the following fatty acid

a) Oleic acid b) Linoleic acid c) Stearic acid d) Palmitic acid

30. Humans are _____type of organisms

a) Ammonotellic b) Urotellic c) Uricotellic d) Urinotellic

31. Urea cycle produces _____ number of ATPs

a) 2.0 b) 8 c) 3.0 d) none

32. Sangers reagent is

a) Cynogen bromide b) Phenyl thio cyanide c) Fluoro2,4 dinitro benzene d) Pepsin

33. Secondary structure of proteins is stabilized by

a) covalent bonds b) hydrogen bonds c) hydrophobic bonds d) salt bridges

34. Transamination helps in

a) preventing ammonia toxicity b) saving the nitrogen

c) balancing the dietary amino acid deficiencies d) all of the above

35. Amylase belongs to the enzyme class

a) Transferases b) Ligases c) Hydrolases d) Oxidoreductases

36. Fischers' hypothesis to explain enzyme mechanism is also known as

a) Template model b) Induced fit model c) Accommodating model d) Relaxed model

37. Endemic Goitre is caused by

a) lack of fluorine b) lack of throxine c) Lack of Iodine d) Lack of glucagon

38. Hyperglycemic hormone is

a) Insulin b) Glucagon c) Adrenalin d) Thyroxine

39. Insulin is produced by _____ cells of Langerhans

a) β cells b) α cells c) γ cells s d) γ cells

40. The basal metabolic rate is maintained by the hormone

a) Estrogen b) Androsterone c) Thyroxine d) Adrenaline

41. The optically inactive amino acid is

a) Proline b) Alanine c) Arginine d) Glycine

42. Krebs cycle occurs in

a) Cytosol b) Golgi apparatus c) Mitochondria d) Endoplasmic reticulum

43. An endothermic reaction would

a) produce heat b) absorb heat c) dissipate heat d) maintain temperature

44. A lewis acid is defined as substances that are

a) accepting electrons b) donating electrons c) organic acids d) amphoteric solvents

45. The codon UAG is a

a) start codon b) stop codon c) codon for serine d) codon for glycine

46. The enzyme that prevents supercoiling of DNA is

a) Helicase b) Gyrase c) Topoisomerase d) Ligase

47. A non- protein amino acid is

a) Arginine b) Ornithine c) Lysine d) Glycine

48. An example of a Zwitter ion is

a) Lecithin b) Serine c) Pectin d) Chitin

49. Hyaluronic acid is

a) Homopolysaccharide b) glycoprotein c) Heteroploysaccharide d) Proteoglycan

50. Which of the following is the least electronegative

a) NADH b) $FADH_2$ c) Cytochromes d) Oxygen

CSIR-CENTRAL LEATHER RESEARCH INSTITUTE, CHENNAI

OBJECTIVE TYPE QUESTION PAPER FOR THE POST OF **TECHNICAL ASSISTANT TA**

PART-B

1. Drape test is to determine ,
   - A. Stiffness of the fabric
   - B. Composition of the fabric
   - C. Type of weaving
   - D. Fastness of the fabric

2. Why cotton is better than polyester ,
   - A. Less shrinkage
   - B. Breathability
   - C. Quick drying
   - D. Better light fastness

3. Spandex fabrics is a
   - A. Natural fiber
   - B. Synthetic fiber
   - C. Semi-Synthetic fiber
   - D. Optical fiber

4. What is warp threads in fabrics
   - A.Threads that run horizontally
   - B. Threads that strung vertically
   - C. Threads that give filling effect
   - D. Threads that run diagonally

5. RFID indicates
   - A. Random fashion indices
   - B. Related frequency identification
   - C. Rational fashion identification
   - D. Radio frequency identification

6. Grading in fashion designing means
   - A. Process of certifying the quality of the product
   - B. Process of dividing the products into uniform lots
   - C. Proportional increase or decrease the size of a pattern
   - D. Proportional improvement in the quality of the garment

7. Muslin is a loosely woven
   - A. Cotton material
   - B. Linen material
   - C. Silk material
   - D. Satin material

8. Cotton fabrics are preferred in summer because,
   A. It keeps the body temperature constant
   B. It is abundantly available in india
   C. It absorbs moisture and sweat from the body
   D. None of the above

9. The primary property essential for a fibre
   A. Resiliency
   B. Resistance to wear
   C. Compressibility
   D. Uniformity

10. The property of bending the fabric without break is
   A. Flexibility
   B. Elasticity
   C. Tenacity
   D. Stretchiness

11. The lines of maximum tightness in a skin is,
   A. Between neck to butt of a skin
   B. Between belly to belly of a skin
   C. Entire skin
   D. Center portion of the skin

12. The term seamstress refers to
   A. Designing the garment
   B. Cutting the garment
   C. Stitching the garment
   D. None of the above.

13. Slip stitching occurs in the sewing machine due to
   A. Bobbin thread over spinning
   B. Top thread broken
   C. Bottom thread broken
   D. Needle not fully inserted inside into the needle bar

14. Suitable needle point to stitch synthetic fabrics is
   A. Triangular point
   B. Diamond point
   C.Ball point
   D. Square point

15. The purpose of stitch regulator in the sewing machine is
   A. To avoid slip stitching
   B. To alter the length of stitch
   C. To take up slack after stitch formation
   D. To straighten out the thread

16. Which skins are referred as Exotic skins
    A. Wool sheep skins
    B. Calf skins
    C. Pig skins
    D. Snake skins

17. Cotton thread is obtained from
    A. Synthetics
    B. Plants
    C. Insects
    D. Rubber tree

18. Leather board is basically obtained from
    A. Jute pulp
    B. Paper pulp
    C. Wood pulp
    D. None of the above

19. While cutting leather the direction of cutting should be
    A. Start at left top corner and end at the right bottom corner
    B. Start at right top corner and end at left bottom corner
    C. Start at left top corner and end at left bottom corner
    D. Start at right top corner and end at right bottom corner.

20. A muslin garments cutfrom a first pattern is called
    A. Sample
    B. Dress
    C. Template
    D. Test-fit

21. The study of man and his measurement is called
    A. Anthropometry
    B. Anthropology
    C. Anatomy
    D. Anthology

22. Conversion of yarn is carried out by a process termed as
    A. Weaving
    B. Spinning
    C. Carding
    D. Combing

23. Find the odd one out
    A. Cotton
    B. Jute
    C. Silk
    D. Linen

24. The direction in which the weft thread is passing in the fabric
    A. Horizontal
    B. Vertical
    C. Crosswise
    D. None of the above

25. Fasteners used on Industrial garments
    A. Buttons
    B. Press studs
    C. Velcro
    D. All the above

26. What do you mean by AQL
    A. Allowance in quantity level
    B. Acceptable quality limit
    C. Approved quality level
    D. Average quality limit

27. What is production lead time
    A. Interval time between the initiation and the completion of a production process
    B. Break even time in the production process
    C. Just in time in the production process
    D. Overall time to deliver the product

28. What do you mean by proforma invoice
    A. Final commercial invoice
    B. Approved commercial invoice
    C. Temporary commercial invoice
    D. Fixed commercial invoice

29. What is pattern engineering
    A. Patterns with net dimensions of a particular style
    B. Patterns to make a large amount of production
    C. Patterns for reducing the consumption of material
    D.None of the above

30 .What do you mean by overlocking
    A. Fabric in the inner side of the garments
    B. Sewing process at the cutting edge of the fabric
    C. Attachment of different components of garments
    D. A layer of fabric in between two layers of fabric

31. What do you mean by trimmings in textile industry
    A. Cutting the slack yarn of the fabric
    B. Measure of wastage of fabrics
    C. Components which are needed to make a complete garment
    D. None of the above

32. Costume does not refer to
    A. Provide visual interest to a character
    B. Style of dress particular to a nation
    C. Style of dress particular to a period
    D. Altering existing clothing

33. The term seam refers to the
    A. Bonding of two materials
    B. Richness of the design
    C. Thickness of the material
    D. Row of stitches

34. The Adhesive applied in hot condition is
    A. Poly ester adhesive
    B. Poly chloroprene adhesive
    C. Poly urethane adhesive
    D. Poly styrene adhesive

35. Find the odd one out
    A. Nitro acetate
    B. Nitro cellulose
    C. Cellulose nitrate
    D. Gun cotton

36. Leather material is
    A. One dimensional
    B. Two dimensional
    C. Three dimensional
    D. Multi dimensional

37. Chamois leather is produced by
    A. Chrome tanning
    B. Oil tanning
    C. Vegetable tanning
    D. Formaldehyde tanning

38. Upper leather has a tensile strength of
    A. 200 Kg/cm^2
    B. 200 Kg/cm
    C. 200 gm/cm^2
    D. 200 gm/cm

39. Aniline leather will have
    A. Less defect and more coverage
    B. Less defect and less coverage
    C. More defect and more coverage
    D. More defect and less coverage

40.Fatliquors are used in the leather processing
A. To distribute the fats in the leather
B. To provide softness to the leather
C. To facilitate theretanning process
D. To remove the fats in the leather

41. A dye should have the property of
A. Colouring property
B. Fastness to light
C. Wash resistance
D. All the above properties

42. Nubuck leather will have
A Velvetty nap on the grain side
B Velvetty nap on the flesh side
C. Tighter and resin finished leather
D. Soft and resin finished leather

43. Leather finish crack is due to
A. Low grade and loose grain leather
B. Insufficient resin in base coat
C. Excessive penetration of base coat
D. All the above.

44. The finish adhesion test is carried out by
A. Tensile tester
B. Lastometer
C. Flexometer
D. Dynomometer

45. which dye has good wash and light fastness in the leather
A. Acid dyes
B. Basic dyes
C. Metal complex dyes
D. Direct dyes

46. Which among these is an element of design
A. Creative art
B. Texture
C. Contrast
D. Harmony

47. "Nike "is the brand name of
A. Women's wear
B. Sports wear
C. Men's wear
D. Luggage wear

48. What is ERP
    A. Enterprise resource planning
    B. Evaluation report planning
    C. Enterprise report proposal
    D. Entrepreneur research project

49. Which extinguisher is suitable for cotton or textile fires
    A. Soda acid extinguisher
    B. Carbon dioxide extinguisher
    C. Water
    D. Dry chemicals

50. BIS refers to
    A. Business information system
    B. Bureau of information science
    C. Business integrated system
    D. Bureau of Indian standards

****

PART B

Questions For The Post of Technical Assistant TA10 (UR) Statistics 01 Post:

Choose the correct answer:

1. In a Pie chart the information is displayed using
   a) Length of each bar b)width of each bar c)sectors of a circle d) none of the above.
2. The mean of the numbers 5,4,9,3,3,4,7,4,6,5 is
   a) 4 b) 4.5 c) 9 d) 5
3. The median of the numbers 15,24,19,13,34,47,25 is
   a) 24 b) 47 c) 13 d) 15
4. The mode of the numbers 3,5,7,5,8,7,5,6,3,5,1,5,3 is
   a) 3 b) 5 c) 1 d) 6
5. The geometric mean of the numbers 3,6,24,48 is
   a) 15 b) 12 c) 7.11 d) 20.25
6. The harmonic mean of the numbers 3,6,24,48 is
   a) 15 b) 12 c) 7.11 d) 20.25
7. The range for the set of numbers 13,25,36,22,18,45,21,26,30,22 is
   a) 32 b) 22 c) 18 d) 45
8. The mean deviation about the mean of 3,5,6,7,9 is
   a) 6 b) 1.6 c) 3 d) 9
9. The standard deviation of the set of numbers 3,8,6,10,12,9,11,10,12,7 is
   a)2.71 b) 2.17 c) 8.8 d) 7.36
10. For 500 observations with mean 186 and standard deviation 9 the coefficient of variation is a) 20.67 b) 4.84 c) 5.174 d) 229.6
11. The probability of getting an even number when a die is thrown is
    a) $\frac{1}{6}$ b) $\frac{1}{3}$ c) $\frac{1}{2}$ d) 1
12. The probability of throwing a number less than 7 when a die is thrown is
    a) $\frac{1}{6}$ b) $\frac{1}{3}$ c) $\frac{1}{2}$ d) 1
13. If S is a sample space then
    a) $P(S) = 0$ b) $P(S) > 0$ c) $P(S) < 0$ d) $P(S) = 1$
14. A coin is tossed twice. The probability of getting atleast one head is
    a) 1 b) $\frac{3}{4}$ c) $\frac{1}{4}$ d) $\frac{1}{2}$

15.The mathematical expectation of sum of the points on n dice is

a) $\frac{7}{2}$ b) $\frac{7}{2}n$ c) $\left(\frac{7}{2}\right)^n$ d) 0

16.If Var(X+Y) = Var(X) + Var(Y) then X and Y are a) positively correlated b) negatively correlated c) independent d) none of the above

17.The correlation coefficient ρ is a) always equal to 1 b) always equal to 0 c) always equal to -1 d) always lies between -1 and +1

18.The mean of the Binomial distribution is

a) n b) p c) np d) npq

19.If X and Y are independent Binomial random variables with B(5, $\frac{1}{2}$) and B(7, $\frac{1}{2}$) then P(X+Y= 3) is a) 0.078 b) 0.87 c) 0.78 d) 0.087

20.For a Binomial distribution with parameters n and p

a) $p + q = 1$ b) $p + q < 1$ c) $p + q > 1$ d) $p + q = 0$

21.For a Poisson distribution a) mean = variance b) mean > variance c) mean < variance d) mean = - variance

22.If P(X=1) = P(X=2) for Poisson variable then E(X) is

a) 1 b) 2 c) $\frac{1}{2}$ d) none of the above

23.For a Poisson distribution the sample size n is

a) finite b) 0 c) infinite d) 1

24.For a standard Normal distribution the parameters are

a) 0 and 1 b) 1 and 1 c) μ and σ^2 d) μ and σ

25.The limiting form of a Binomial distribution is a a) Normal distribution b) Poisson distribution c) χ^2 distribution d) none of the above

26.Mean of a Gamma distribution is

a) $\frac{n}{a}$ b) $\frac{n}{a^2}$ c) $\frac{n(n+1)}{a^2}$ d) $\frac{n(n+1)}{2a}$

27.If X follows $N(\mu,\sigma^2)$ then $\overline{X}$ follows a) $N(\mu,\sigma^2)$ b) $N(\mu,\frac{\sigma^2}{n})$ c) N(0,1) d) $N(\mu,\sigma)$

28. χ^2 distribution with n degrees of freedom has variance

a) n b) 2n c) n(n+2) d) 8n

29. The moment generating function of a standard normal distribution is

a) $\frac{1}{2}e^{\frac{-x^2}{2}}$ b) $e^{\frac{t^2}{2}}$ c) $(1-2t)^{\frac{n}{2}}$ d) $(1-2t)^{-\frac{n}{2}}$

30. The distribution of the quotient of two independent χ^2 variables is

a) χ^2 distribution b) Beta distribution of first kind c) Beta distribution of second kind d) Gamma distribution

31. If X and Y are two independent standard normal variables then $\frac{X}{Y}$ follows a

a) χ^2 distribution b) Beta distribution of first kind c) Beta distribution of second kind d) Cauchy distribution

32. If χ^2 is Chi square random variable with n degrees of freedom then $\sqrt{2\chi^2}$ follows a) N(0,1) b) N(n,1) c) $N(\sqrt{2n},1)$ d) N(2n,1)

33. If $X_1, X_2, \ldots X_n$ is a random sample from $N(\mu, \sigma^2)$ then $\frac{ns^2}{\sigma^2}$ follows

a) $N(\mu, \sigma^2)$ b) N(0,1) c) χ^2 distribution with n degrees of freedom d) χ^2 distribution with n-1 degrees of freedom

34. The distribution of s^2 is a) normal distribution b) χ^2 distribution c) Beta distribution d) Gamma distribution

35. The mean of the 't' distribution is

a) 0 b) r c) n d) 1

36. The limiting form of a 't' distribution is a) normal distribution b) χ^2 distribution c) Beta distribution d) Gamma distribution

37. The graph of a 't' distribution a) is positively skewed b) is negatively skewed c) has skewness 1 d) has skewness 0

38. For a 't' distribution a) mean = median = mode b) mean > median > mode c) mean < median < mode d) none of the above

39. If T has a 't' distribution with n degrees of freedom then T^2 has

a) F distribution with (1,n) degrees of freedom b) F distribution with (n,1) degrees of freedom c) χ^2 distribution with n degrees of freedom d) χ^2 distribution with n-1 degrees of freedom

40.Type I error is a) accepting H_0 when H_0 is true b) accepting H_0 when H_0 is false c) rejecting H_0 when H_0 is true d) rejecting H_0 when H_0 is false

41.Type II error is a) accepting H_0 when H_0 is true b) accepting H_0 when H_0 is false c) rejecting H_0 when H_0 is true d) rejecting H_0 when H_0 is false

42.For a large sample the table value of z at 5% level is

a) 2.58 b) 1.96 c) 1.645 d) -1.645

43.For a small sample the sample size will be

a) 80 b) less than 30 c) more than 30 d) infinite

44.The 95% confidence interval for the population mean for a large sample is

a) $(\bar{x}-1.96\frac{\sigma}{\sqrt{n}}, \bar{x}+1.96\frac{\sigma}{\sqrt{n}})$ b) $(\bar{x}-2.58\frac{\sigma}{\sqrt{n}}, \bar{x}+2.58\frac{\sigma}{\sqrt{n}})$

c) $(\bar{x}-95\frac{\sigma}{\sqrt{n}}, \bar{x}+95\frac{\sigma}{\sqrt{n}})$ d) $(\bar{x}-5\frac{\sigma}{\sqrt{n}}, \bar{x}+5\frac{\sigma}{\sqrt{n}})$

45.Cumulative frequency is used to calculate the

a) mean b) median c) mode d) geometric mean

46.Probability of an impossible event is

a) 0 b) 1 c) does not exist d) infinity

47.Probability of a sure event is

a) 0 b) 1 c) does not exist d) infinity

48.The probability of getting a prime number between 1 to 20

a) 1 b) $\frac{1}{20}$ c) $\frac{2}{5}$ d) $\frac{1}{2}$

49.Three coins are tossed at the same time. The probability of obtaining no heads is a) $\frac{3}{8}$ b) $\frac{1}{8}$ c) $\frac{7}{8}$ d) $\frac{1}{3}$

50.Rooms in a hotel are numbered from 1 to 19. The probability that the first guest is given a room with a prime number is

a) $\frac{1}{19}$ b) $\frac{8}{19}$ c) $\frac{18}{19}$ d) 0

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CSIR-CENTRAL LEATHER RESEARCH INSTITUTE, CHENNAI

OBJECTIVE TYPE QUESTION PAPER FOR THE POST OF **TECHNICAL ASSISTANT** TA08

PART-B

1. Water content of raw hide / skin is
   A. 20 - 30%
   B. 30 - 40%
   C. 40 - 50%
   D. 60 - 70%

2. Layer which keeps the body temperature of the animal constant throughout the year is
   A. Reticulin layer
   B. Hyaline layer
   C. Grain layer
   D. Flesh layer

3. Flaying defect comes under the class of
   A. Ante-mortem defect
   B. Post-mortem defect
   C. Fallen animal
   D. Slaughter house defect

4. Animal cell is composed of
   A. Protoplasm
   B. Cellulose
   C. Cytoplasm
   D. None of the above

5. Collagen structure is in the form of
   A. Triple helix
   B. Trapezoid
   C. Cuboids
   D. None of the above

6. Shrinkage temperature of pelt collagen is
   A. 60^0 C
   B. 70^0 C
   C. 80^0 C
   D. 90^0 C

7. Lime Blast is influenced by the formation of
   A. Calcium Hydroxide
   B. Calcium Carbonate
   C. Calcium bi-carbonate
   D. Calcium Chloride

8. Basicity of the chromium sulphate used in the initial stage of tanning
   A. 66 %
   B. 50 %
   C. 40 %
   D. 33 %

9. Bromocresol green indicator is used to check the completion of
   A. Deliming process
   B. Bating process
   C. Chrome tanning process
   D. Neutralization process

10. Vegetable tanning structures are mainly
   A. Poly acids
   B. Poly aliphatic
   C. Poly aromatic
   D. Poly bases

11. Precipitation of Hydrolysable tannins are referred as
   A. Tannin red
   B. Bloom
   C. Phlobaphenes
   D. Gallo tannins

12. For rapid penetration of vegetable tanning T/NT ration is
   A. Less than one
   B. Equal to one
   C. Greater than one
   D. Zero

13. Which part of the tree does the vegetable tannin Myrobalan is present
   A. Fruits
   B. Leaves
   C. Bark
   D. Roots

14. For colour formation a dye should have
   A. Chromophoric groups
   B. Auxo-chromic groups
   C. Bathochromic groups
   D. All the above

15. To improve light fastness and wash fastness the ideal dyes are
   A. Acid dyes
   B. Basic dyes
   C. Metal complex dyes
   D. Natural dyes

16. For better penetration of dyes,initially the condition is
    A.pH is raised and temperature is lowered
    B. pH is lowered and temperature is lowered
    C pH is lowered and temperature is raised
    D. pH is raised and temperature is raised

17. Oil tanning takes place during the oxidation of oil and forms
    A. Esters
    B. Peroxides
    C. Fatty acids
    D. Fatty acid esters

18. When oil is treated to the leather in the form of oil-in water emulsion ,it is technically
    A. Currying
    B. Fatliquoring
    C. Stuffing
    D. Oil tanning

19. Synthetic fatliquors are normally prepared by
    A. Suphitation
    B. Esterification
    C. Chlorination
    D. Supho chlorination

20. Fatliquors which are more stable in a wider pH and salt is
    A. Sulphated fatliquor
    B. Suphonated fatliquor
    C. Sulphited fatliquor
    D. Esterified fatliquor

21. Ideal fatliquor to manufacture leather garment leathers
    A. Vegetable based fatliquor
    B. Animal based fatliquor
    C. Marine based fatliquor
    D. Synthetic fatliquor

22. Organic pigments have
    A. Good light fastness
    B. Poor light fastness
    C. Less brilliancy
    D. High density

23. What type of coat is given to decrease the absorbency rate in the dyed crust
    A.Staining coat
    B. Clearing coat
    C. Ammonia coat
    D. Sealing coat

24. Casein is obtained from
    A. Skimmed milk
    B. Fleshings
    C. Bones
    D. Hide trimmings

25. Acrylic binders are manufactured from
    A. Alkyd resins
    B. Urea formaldehyde resins
    C. Acrylates
    D. Urethanes

26.For easy release of plate in the embossing machine the chemical used is
    A. Plasticizers
    B. Fillers
    C. Wax emulsion
    D. Solvents

27. More quantity of Inorganic pigments are used to produce
    A. Aniline leather
    B. Resin finished leather
    C. Glaze finished leather
    D. Chamois leather

28. Equipment used to test the finish adhesion of the leather
    A. Tensile tester
    B. Flexometer
    C. Lastometer
    D. Tensometer

29. Essential property of sole leather is
    A. Tensile strength
    B. Bursting strength
    C. Stitch tear strength
    D. Abrasion resistance

30. The cause for the finish crack in a finished leather is due to
    A. Too soft a resin binder
    B. Too thin a finish film
    C. Ratio of grain to corium structure is less
    D. Too brittle the finish

31. The purpose of buffing operation is
    A. To remove the loose fleshes
    B. To dedust the leather
    C. To split the leather
    D. To avoid looseness in the leather

32. For grain snuffing operation the grit of emery paper used is
    A. 80 grit
    B. 120 grit
    C. 240 grit
    D. 800 grit

33. The operation of staking is done
    A. To separate the fibre structure and to produce softness in the leather
    B. To produce hard leather
    C. To overcome the problem of looseness in the leather
    D. None of the above

34. Electronic area measuring machine is operated using
    A. Photo cells sensors
    B. Pneumatic sensors
    C. Radial sensors
    D. Rotary sensors

35. Minimum stitch tear strength required for garment production is
    A. 50 kg/cm^2
    B. 50 kg/cm
    C. 80 kg/cm^2
    D. 80 kg/cm

36. Tensile strength of an upper leather is expressed in terms of
    A. 200 Kg/cm^2
    B. 200 Kg/cm
    C. 200 gm/cm^2
    D. 200 gm/cm

37. Chemical name for calgon is
    A. Sodium phosphate
    B. Calcium phosphate
    C. Sodium hexa meta phosphate
    D. Calcium hydroxide

38. Oils are esters of higher fatty acid but they differ from each other because
    A. Alcoholic portion is mono hydric fatty alcohol
    B. Number of carbon atom present in a molecule is same
    C. Sizes of different fatty acids are different
    D. None of the above.

39. Minimum chromium content in the chrome tanned leather in terms of Cr_2O_3 is
    A. 2.5 %
    B. 4 %
    C. 6.5%
    D. 8 %

40. Human foot is composed of
    A. 14 bones
    B. 22 bones
    C. 24 bones
    D. 26 bones

41. English sizing scale begins with
    A. Zero at four inches
    B. Zero at one inch
    C. One at one inch
    D. One at four inches

42. In shoe upper construction, when vamp is overlaid on quarters, the type of shoe is
    A. Oxford shoe
    B. Derby shoe
    C. Court shoe
    D. Moccasin shoe

43. Stitched on leather sole construction is referred as
    A. Cemented
    B. Veldtschoen
    C. Moulded
    D. Tacked

44. In shoe production, D.I.P means
    A. Direct integrated production
    B. Direct injection process
    C. Designed injection process
    D. Develop integrated process

45. Skiving is an operation of
    A. Removing some portion of leather at the edges on the flesh side
    B. Removing the loose fleshes
    C. A small width of strap is cut at the edges
    D. All the above

46. When article is assembled inside out and stitched, then it is
    A. Folded edge construction
    B. Butted edge construction
    C. Turned edge construction
    D. Turned over edge construction

47. B.O.D means
    A. Biodegradable organic demand
    B. Biological oxygen degradation
    C. Biological organic degradation
    D. Biochemical oxygen demand

48. Supply of gaseous oxygen is not necessary for biodegradation in
    A. Aerobic method
    B. Anaerobic method
    C. Trickling filter
    D. Activated sludge method

49. 'OSSEIN' material is obtained for the production of gelatin from
    A. Tannery fleshings
    B. Leather trimmings
    C. Bones
    D. Hairs

50. Saponification value of the oil is important for
    A. Fullness
    B. Decolourisation
    C. Penetration
    D. Spue formation

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PART-B

Post Code: Technical Assistant (TA 02) – Chemical Engineering.,

Total No., of Questions: 50

Duration: 01 hour

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1. Fourier's law applies to the heat transfer by
   A. Convection
   B. Radiation
   C. Conduction
   D. all (a), (b) & (c)

Correct Answer: Option C

2. In the equation $Q = UA\Delta t$; Δt is
   A. geometric mean temperature difference.
   B. arithmetic mean temperature difference.
   C. logarithmic mean temperature difference.
   D. the difference of average bulk temperatures of hot and cold fluids.

Correct Answer: Option C

3. The steam ejector is used to
   A. remove condensate from the steam pipelines.
   B. create vacuum.
   C. superheat the steam.
   D. none of these.

Correct Answer: Option B

4. In a heat exchanger, floating head is provided to

A. facilitate cleaning of the exchanger.

B. increase the heat transfer area.

C. relieve stresses caused by thermal expansion.

D. increase log mean temperature gradient.

Correct Answer: Option C

5. Baffles in the shell side of a shell and tube heat exchanger

A. increase the cross-section of the shell side liquid.

B. force the liquid to flow parallel to the bank.

C. increase the shell side heat transfer co-efficient.

D. decrease the shell side heat transfer co-efficient.

Correct Answer: Option C

6. The unit of heat transfer co-efficient in SI unit is

A. $J/M^{2}°K$

B. $W/m^{2}°K$

C. $W/m°K$

D. $J/m°K$

Correct Answer: Option B

7. The number of kg vaporised per kg of steam fed to the evaporator is defined as

A. Capacity

B. rate of evaporation

C. Economy

D. rate of vaporisation

Correct Answer: Option C

8. A backward feed multiple effect evaporator is better than forward feed for concentrating cold feed, because it provides

A. higher economy

B. lower capacity

C. both (a) & (b)

D. lower economy

Correct Answer: Option A

9. Baffles are provided in heat exchangers to increase the

A. fouling factor

B. heat transfer area

C. heat transfer co-efficient

D. heat transfer rate

Correct Answer: Option C

10. What is Nusselt number ?

A. $\frac{C_p \cdot \mu}{k}$

B. $\frac{hD}{k}$

C. $\frac{h \cdot C_p}{\mu}$

D. $\frac{C_p \cdot \mu}{h}$

Correct Answer: Option B

11. Steam traps are provided in steam carrying pipelines to

A. condense steam.

B. release excess steam pressure by bleeding steam.

C. remove condensate and inert gases.

D. none of these.

Correct Answer: Option C

12. Heat transfer rate per unit area is called

A. thermal conductivity

B. heat flux

C. heat transfer co-efficient

D. thermal diffusivity

Correct Answer: Option B

13. Which of the following has the highest thermal conductivity ?

A. Brick

B. Air

C. Water

D. Silver

Correct Answer: Option D

14. For specified tube outside diameter, higher BWG means higher

A. tube thickness

B. cross-sectional area

C. weight per unit length

D. none of these

Correct Answer: Option B

15. The fluid property, due to which, mercury does not wet the glass is

A. surface tension

B. Viscosity

C. Cohesion

D. Adhesion

Correct Answer: Option A

16. Head developed by a centrifugal pump depends on its

A. Speed

B. impeller diameter

C. both (a) and (b)

D. neither (a) nor (b)

Correct Answer: Option C

17. Nominal size of the discharge pipe of a pump is usually _____ the nominal size of the inlet pipe.

A. smaller than

B. larger than

C. same as

D. Twice

Correct Answer: Option A

18. The dimension of dynamic viscosity is

A. $ML^{-1}T^{-1}$

B. $L^{2}T^{-1}$

C. LT^{-2}

D. $ML^{-1}T^{-2}$

Correct Answer: Option A

19. The ratio of inertial forces to elastic forces is called the _____ number.

A. Reynolds

B. Mach

C. Euler

D. Weber

Correct Answer: Option B

20. For ideally incompressible fluid, the Mach number will be

A. 1.5

B. 1

C. 0

D. 5

Correct Answer: Option B

21. An ideal fluid is

A. non-viscous

B. Incompressible

C. both (a) & (b)

D. neither (a) & (b)

Correct Answer: Option C

22. A centrifugal pump has the following specifications:
Power = 4 H.P.; Speed = 800 rpm ; Head = 8 metres; Flow = 1000 litres/minutes.
If its speed is halved, the new discharge will be _____ litres/minute.

A. 500

B. 200

C. 1000

D. 750

Correct Answer: Option A

23. Fenske equation determines the

A. maximum number of ideal plates.

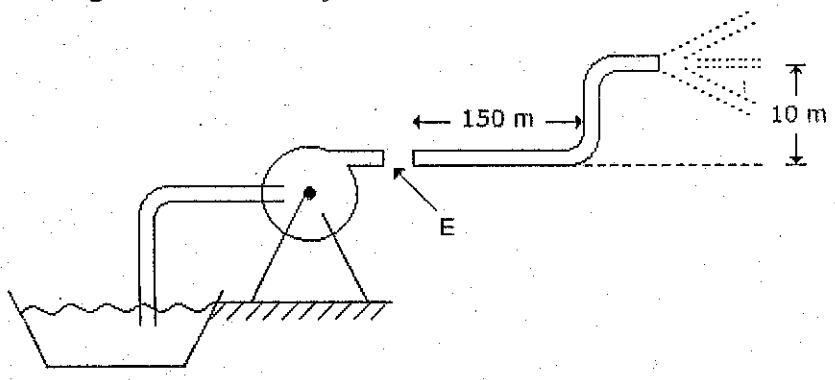
B. height of the distillation column.

C. minimum number of theoretical plates.

D. optimum reflux ratio.

Correct Answer: Option C

24. A centrifugal pump is used to pump water through a horizontal distance of 150 m, and then raised to an overhead tank 10 m above. The pipe is smooth with an I.D of 50 mm. What head (m of water) must the pump generate at its exit (E) to deliver water at a flow rate of 0.001 m^3/s? The Fanning friction factor, f is 0.0062.



A. 10 m

B. 11 m

C. 12 m

D. 20 m

Correct Answer: Option B

25. Which is the controlling factor for a drum drier?

A. Diffusion

B. Heat transfer

C. Both (a) and (b)

D. Neither (a) nor (b)

Correct Answer: Option B

26. Drying operation under vacuum is carried out to

A. dry those materials which have very high unbound moisture content.

B. reduce drying temperature.

C. increase drying temperature.

D. dry materials having high bound moisture content.

Correct Answer: Option B

27. Make up water is required in a cooling tower to replace the water lost by

A. Evaporation

B. Drift

C. blowdown and leakage

D. all (a), (b) and (c)

Correct Answer: Option D

28. Agitator is provided in a crystalliser for

A. avoiding deposition on cooler surfaces.

B. formation of nuclei.

C. crystal growth.

D. all (a), (b) and (c).

Correct Answer: Option D

29. The most common packing used in industrial operations is _____ rings.

A. Raschig

B. Lessing

C. cross-partition

D. single spiral

Correct Answer: Option A

30. A slurry is to be dried to produce flaky solid. Which dryer would you recommend ?

A. Spray dryer

B. Drum dryer

C. Rotary dryer

D. Dielectric dryer

Correct Answer: Option A

31. When the mixture to be distilled has a very high boiling point and the product material is heat sensitive, the separation technique to be used is _____ distillation.

A. Continuous

B. Steam

C. Azerotropic

D. none of these

Correct Answer: Option B

32. In which of the following unit operations, the selectivity is an important parameter ?

A. Distillation

B. Solvent extraction

C. Absorption

D. None of these

Correct Answer: Option B

33. Diameter of raschig rings used in packed tower in industry is normally around _____ inches.

A. 2

B. 8

C. 12

D. 18

Correct Answer: Option A

34. Mass transfer co-efficient varies as $D_{AB}0.5$, according to the _____ theory.

A. Film

B. surface renewal

C. Penetration

D. none of these

Correct Answer: Option B

35. Rayleigh equation applies to _____ distillation.

A. Differential

B. Flash

C. Equilibrium

D. Molecular

Correct Answer: Option A

36. Short distance transportation of grain, gravel, sand, ash, asphalt etc. is done by using a _____ conveyor.

A. Flight

B. slat or drag

C. Ribbon

D. Screw

Correct Answer: Option D

37. If dp is the equivalent diameter of a non-spherical particle, Vp its volume and sp its surface area, then its sphericity is Φs is defined by

A. $\Phi_s = 6\ V_p/d_p\ s_p$

B. $\Phi_s = V_p/d_p\ s_p$

C. $\Phi_s = 6\ d_p\ S_p/V_p$

D. $\Phi_s = d_p\ S_p/V_p$

Correct Answer: Option A

38. Power required to drive a ball mill with a particular ball load is proportional to (where, D = diameter of ball mill)

A. D

B. $1/D$

C. $D^{2.5}$

D. $1/D^{2.5}$

Correct Answer: Option C

39. Which of the following is a pressure filter ?

A. Leaf filter (Moore filter).

B. Plate and flame filter.

C. Rotary drum filter.

D. Sand filter.

Correct Answer: Option B

40. Highly viscous liquids & pastes are agitated by

A. Propellers

B. turbine agitators

C. multiple blade paddles

D. none of these

Correct Answer: Option C

41. Balls for ball mills are never made of

A. forged/cast steel

B. Lead

C. cast iron

D. alloy steel

Correct Answer: Option B

42. 200 mesh screen means 200 openings per

A. cm^2

B. Cm

C. Inch

D. $inch^2$

Correct Answer: Option C

43. Moore filter is a _____ filter.

A. Leaf

B. Press

C. Rotary

D. Sand

Correct Answer: Option A

44. Use of baffles in agitators help in minimising the _____ tendency.

A. Swirling

B. Vortexing

C. both (a) & (b)

D. neither (a) nor (b)

Correct Answer: Option C

45. Ribbon blenders are exclusively meant for

A. blending miscible liquids.

B. non-flowing powder and thin pastes.

C. bath mixing.

D. continuous mixing.

Correct Answer: Option B

46. In constant pressure filtration,

A. resistance decreases with time

B. rate of filtration is constant

C. rate of filtration increases with time

D. rate of filtration decreases with time

Correct Answer: Option D

47. Which of the following is not used as a filter medium in case of corrosive liquids ?

A. Nylon

B. Glass cloth

C. Metal cloth of monel or stainless steel

D. Cotton fabric

Correct Answer: Option D

48. Which of the following is an undesirable dynamic characteristic of an instrument ?

A. Reproducibility

B. Dead zone

C. Time lag

D. Static error

Correct Answer: Option C

49. Working principle of radiation pyrometer is based on the

A. Wien's law

B. Kirchoffs law

C. Stafan-Boltzman law

D. Seebeck effect

Correct Answer: Option C

50. Continuous shell temperature measurement in a liquid-liquid heat exchanger is done by a

A. Thermocouple

B. reistance thermometer

C. mercury in glass thermometer

D. vapor pressure thermometer

Correct Answer: Option A

TA-04 HORTICULTURE

Answers

1. C
2. A
3. C
4. A
5. B
6. D
7. D
8. B
9. B
10. B
11. C
12. B
13. D
14. B
15. A
16. A
17. B
18. C
19. A
20. B
21. D
22. B
23. A
24. B
25. C
26. A
27. C
28. A
29. D
30. B
31. B
32. B
33. A
34. B
35. A
36. D
37. A
38. C
39. B
40. A
41. B
42. C

43. A
44. A
45. A
46. C
47. B
48. B
49. C
50. B

ANSWER KEY

CHEMISTRY PART-B

1.	a	26.	a
2.	a	27.	a
3	d	28.	c
4.	c	29.	a
5.	a	30.	d
6.	d	31.	d
7.	a	32.	b
8	c	33.	a
9.	a	34.	a
10.	b	35.	c
11.	c	36.	a
12.	b	37.	b
13.	a	38.	a
14.	a	39.	b
15.	c	40.	a
16.	c	41.	a
17.	a	42.	b
18.	b	43.	c
19.	b	44	d
20.	b	45.	d
21.	d	46.	a
22.	d	47.	d
23.	c	48.	a
24.	b	49.	c
25.	a	50.	b

PART – B

Answer all (50 X 1 = 50 marks) **Duration: 1 Hour**

1. A
2. C
3. D
4. D
5. B
6. C
7. A
8. B
9. B
10. B
11. C
12. D
13. C
14. D
15. A
16. D
17. C
18. B
19. C
20. B
21. C
22. B
23. C
24. D
25. D
26. D
27. C
28. B
29. B
30. A

31. D
32. A
33. D
34. D
35. A
36. D
37. C
38. C
39. D
40. B
41. A
42. A
43. B
44. A
45. C
46. D
47. C
48. B C
49. D
50. B

Key for Biochemistry MCQs

1. a	2. b
3. d	4. c
5. b	6. a
7. c	8. d
9. c	10. b
11. b	12. a
13. c	14. a
15. d	16. b
17. a	18. b
19. c	20. a
21. c	22. b
23. a	24. d
25. a	26. b
27. c	28. b
29. a	30. b
31. d	32. c
33. b	34. d
35. c	36. a
37. c	38. b
39. a	40. c
41. d	42. c
43. b	44. a
45. b	46. c
47. b	48. b
49. c	50. d

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08

Answer key: Post code TA 11

PART-B

Qn. No.	Answer Key
1	A
2	B
3	B
4	B
5	D
6	C
7	A
8	C
9	D
10	A
11	A
12	C
13	D
14	C
15	B
16	D
17	B
18	D
19	A
20	D
21	A
22	B
23	C
24	A
25	D

Qn. No.	Answer Key
26	B
27	A
28	C
29	C
30	B
31	C
32	D
33	D
34	A
35	A
36	C
37	B
38	A
39	B
40	B
41	D
42	A
43	D
44	C
45	C
46	B
47	B
48	A
49	D
50	D

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For The Post of Technical Assistant TA10 (UR) Statistics 01 Post:

Answers:

1. c) sectors of a circle.
2. d) 5
3. a) 24
4. b) 5
5. b)12
6. c) 7.11
7. a) 32
8. b) 1.6
9. a) 2.71
10. b) 4.84
11. c) $\frac{1}{2}$
12. d) 1
13. d) P(S) =1
14. b) $\frac{3}{4}$
15. b) $\frac{7}{2}n$
16. c) independent
17. d) always lies between -1 and +1
18. c) np
19. a) 0.078
20. a) p + q = 1
21. a) mean = variance
22. b) 2
23. c) infinite
24. a) 0 and 1
25. b) Poisson distribution
26. a) $\frac{n}{a}$
27. b) $N(\mu, \frac{\sigma^2}{n})$
28. b) 2n
29. b) $e^{\frac{t^2}{2}}$
30. c) Beta distribution of second kind
31. d) Cauchy distribution
32. c) $N(\sqrt{2n}, 1)$
33. d) χ^2 distribution with n-1 degrees of freedom
34. d) Gamma distribution
35. a) 0
36. a) normal distribution
37. d) has skewness is 0
38. a) mean = median = mode
39. a) F distribution with (1,n) degrees of freedom
40. c) rejecting H_0 when H_0 is true
41. b) accepting H_0 when H_0 is false
42. b) 1.96
43. b) less than 30
44. a) $(\bar{x} - 1.96\frac{\sigma}{\sqrt{n}}, \bar{x} + 1.96\frac{\sigma}{\sqrt{n}})$
45. b) median
46. a) 0
47. b) 1
48. c) $\frac{2}{5}$
49. b) $\frac{1}{8}$
50. b) $\frac{8}{19}$

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Answer key: Post code TA-08 II .

PART-B

Qn. No.	Answer Key
1	D
2	C
3	B
4	A
5	A
6	A
7	B
8	D
9	D
10	C
11	B
12	C
13	A
14	D
15	C
16	A
17	B
18	B
19	D
20	C
21	D
22	B
23	D
24	A
25	C

Qn. No.	Answer Key
26	C
27	B
28	B
29	D
30	D
31	A
32	D
33	A
34	A
35	B
36	A
37	C
38	C
39	A
40	D
41	A
42	A
43	B
44	B
45	A
46	C
47	D
48	B
49	C
50	C

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