

Question Paper

Name of the Post :	Assistant Chemical Analyser General State Service Group B
Duration :	60
Total Marks :	200

Question Number : 1 Question Id : 630680149724 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following methods is used in enzyme preparation according to the property of the enzyme?

Options :

1. Thin layer chromatography
2. Gel filtration
3. Dialysis
4. Affinity chromatography

Question Number : 2 Question Id : 630680149725 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following tracers is useful for interrelationship among 4-methylsterols and 4,4-dimethyl sterols?

Options :

1. ^{31}P phosphate
2. ^{15}N nitrate
3. ^{14}C acetate
4. ^{18}S sulphate

Question Number : 3 Question Id : 630680149726 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following tracer is used in the plant growth studies for the uptake of calcium through stem from the soil?

Options :

1. ^{45}Ca
2. ^{15}N
3. ^{31}P
4. ^{40}Ar

Question Number : 4 Question Id : 630680149727 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following creatine kinases levels are higher in children?

Options :

1. CK-MM and CK-BB
2. CK-MM and CK-BK
3. CK-MB and CK-BB
4. CK-BB and CK-BK

Question Number : 5 Question Id : 630680149728 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What are the activators in trypsinogen and proelastase zymogens, respectively?

Options :

1. Pepsin and trypsin
2. Trypsin and rennin
3. Enterokinase and trypsin
4. Pepsin and enterokinase

Question Number : 6 Question Id : 630680149729 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Who discovered ABO blood group system?

Options :

1. Georg Simon
2. Karl Landsteiner
3. Enrico Fermi
4. Henri Becquerel

Question Number : 7 Question Id : 630680149730 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following arteries is involved in carrying deoxygenated blood from the right ventricle to the lungs?

Options :

1. Pulmonary artery
2. Aorta
3. Systemic artery
4. Lingual artery

Question Number : 8 Question Id : 630680149731 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

The antigens for Rh and ABO blood groups are present on:

Options :

1. white blood cells
2. chromosomes
3. platelets
4. red blood cells

Question Number : 9 Question Id : 630680149732 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What is the main use of Donnan membrane technique (DMT)?

Options :

1. Anions and cations detection
2. Elemental analysis
3. Detection of crystalline compounds
4. Measure free and labile metal in solution

Question Number : 10 Question Id : 630680149733 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What are the three different temperatures reached during the polymerase chain reaction to facilitate the denaturation and hybridisation of the DNA strands?

Options :

1. Starting temperature is elevated to 72°C, then lowered to 60°C and again increased to 62°C.
2. Starting temperature is elevated to 90°C, then lowered to 60°C and again increased to 78°C.
3. Starting temperature is elevated to 95°C, then lowered to 60°C and again increased to 72°C.
4. Starting temperature is elevated to 85°C, then lowered to 60°C and again increased to 75°C.

Question Number : 11 Question Id : 630680149734 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Taq polymerase derived from the thermophilic bacteria *Thermus aquaticus* is active at:

Options :

1. 98°C
2. 65°C
3. 72°C
4. 42°C

**Question Number : 12 Question Id : 630680149735 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Polymerase Chain Reaction is a revolutionary method developed by _____.

Options :

1. Paul Flory
2. Peter Debye
3. Kary Mullis
4. Francis Mark

**Question Number : 13 Question Id : 630680149736 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Which of the following is used to amplify or copy, a specific DNA target from a mixture of DNA molecules?

Options :

1. DNA finger printing
2. Gel electrophoresis
3. Electrophoresis
4. Polymerase Chain Reaction

**Question Number : 14 Question Id : 630680149737 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Which of the following separations is NOT possible by using electrophoresis?

Options :

1. Carbohydrates
2. Nucleic acids
3. Proteins
4. Lipids

**Question Number : 15 Question Id : 630680149738 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Which of the following species is used for extraction of Agarose?

Options :

1. Gelidium nudifrons
2. Lycarusican esculentum
3. Ficum benghalensis
4. Agrostis stolonifera

**Question Number : 16 Question Id : 630680149739 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Which of the following technique separates charged particles using electric field?

Options :

1. Hydrolysis
2. Distillation
3. Electrophoresis
4. Crystallisation

**Question Number : 17 Question Id : 630680149740 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Electrophoretic mobility is the ratio of :

Options :

1. it's intensity, and the velocity of the biomolecule in the electric field
2. the velocity of the biomolecule in the electric field, and it's intensity
3. the distance of the biomolecule in the electric field, and it's intensity
4. the velocity of the biomolecule in the electric field, and it's intra molecular distance

**Question Number : 18 Question Id : 630680149741 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

In younger animals, carbohydrates are helpful in the absorption of:

Options :

1. magnesium and sulphur
2. sodium and chlorine
3. calcium and phosphorous
4. phosphorous and potassium

**Question Number : 19 Question Id : 630680149742 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Radioimmunoassay (RIA) is a very sensitive in vitro technique used to measure concentrations of

Options :

1. Plasma
2. Urine
3. Hormone levels in blood
4. Proteins

**Question Number : 20 Question Id : 630680149743 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Who among the following developed the radioimmunoassay technique for measuring concentration of insulin in blood?

Options :

1. Carl Linnaeus
2. Louis-Charles (jointly)
3. Berson-Yalow (jointly)
4. Francis Crick

Question Number : 21 Question Id : 630680149744 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following are the examples of polysaccharides and oligosaccharides, respectively?

Options :

1. Cellulose and glycogen
2. Raffinose and stachyose
3. Starch and glycogen
4. Glycogen and stachyose

Question Number : 22 Question Id : 630680149745 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What is the pH range of lysis buffer?

Options :

1. 7.9
2. 4.9
3. 6.9
4. 8.9

Question Number : 23 Question Id : 630680149746 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

The major buffer system in the body fluid is:

Options :

1. $\text{H}_2\text{SO}_4/\text{HSO}_4^-$
2. $\text{HNO}_3/\text{NO}_3^-$
3. $\text{H}_2\text{CO}_3/\text{HCO}_3^-$
4. $\text{H}_2\text{SO}_3/\text{HSO}_3^-$

Question Number : 24 Question Id : 630680149747 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following is a salt buffer system?

Options :

1. $\text{CH}_3\text{COOH}/\text{CH}_3\text{COO}^-$
2. $\text{NH}_3\cdot\text{H}_2\text{O}/\text{NH}_4^+$
3. $\text{H}_2\text{CO}_3/\text{HCO}_3^-$
4. $\text{NaH}_2\text{PO}_4/\text{Na}_2\text{HPO}_4$

Question Number : 25 Question Id : 630680149748 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following carbohydrates are present as stored energy in plant cells and animal cells, respectively?

Options :

1. Starch and maltose
2. Glycolipid and sucrose
3. Starch and glycogen
4. Glycolipid and glycogen

Question Number : 26 Question Id : 630680149749 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following IR radiation sources emits maximum radiation at 5200 cm^{-1} ?

Options :

1. Nernst glower
2. Mercury arc
3. Globar source
4. Incandescent lamp

Question Number : 27 Question Id : 630680149750 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following fuels has the highest maximum temperature obtained in oxygen oxidant?

Options :

1. Cyanogen
2. Butane
3. Acetylene
4. Propane

Question Number : 28 Question Id : 630680149751 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following X-ray diffraction methods is generally NOT useful for investigating the internal structures?

Options :

1. Powder method

2. Magnetic method
3. Rotating crystal method
4. Laue photographic method

Question Number : 29 Question Id : 630680149752 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Wrong Marks : 0.5

Which of the following elements has the lowest sensitivity limit (in ppm) in flame photometry?

Options :

1. Barium
2. Tin
3. Lead
4. Chromium

Question Number : 30 Question Id : 630680149753 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Wrong Marks : 0.5

Which of the following decreasing orders is correct with respect to detection limits?

Options :

1. $Ba > As > Bi > Al$
2. $As > Bi > Ba > Al$
3. $Bi > Ba > As > Al$
4. $Ba > As > Al > Bi$

Question Number : 31 Question Id : 630680149754 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Wrong Marks : 0.5

In the medical field, which of the following elements are routinely determined in blood analysis by flame photometry?

Options :

1. Na, K, Ca and Mg
2. Ba, Sn, Pb and Sb
3. Cr, Hg, Mo and Ru
4. Al, Cs, Ga and Ge

Question Number : 32 Question Id : 630680149755 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Wrong Marks : 0.5

Which of the following groups decreases, or even destroys, fluorescence?

Options :

1. $-OCH_3$
2. $-OH$
3. $-NO_2$
4. $-NH_2$

Question Number : 33 Question Id : 630680149756 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following fluorescent indicators changes its colour from Blue to colourless at pH range 4.4 – 6.3?

Options :

1. 2-Naphthaquinone
2. Eosin
3. Quinine sulphate
4. Acridine

Question Number : 34 Question Id : 630680149757 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following decreasing orders is correct for π -bonding abilities of some ligands by Mossbauer spectra?

Options :

1. $\text{NO}_2^- > \text{P}(\text{C}_6\text{H}_5)_3 > \text{NH}_3$
2. $\text{P}(\text{C}_6\text{H}_5)_3 > \text{NO}_2^- > \text{NH}_3$
3. $\text{P}(\text{C}_6\text{H}_5)_3 > \text{NH}_3 > \text{NO}_2^-$
4. $\text{NO}_2^- > \text{NH}_3 > \text{P}(\text{C}_6\text{H}_5)_3$

Question Number : 35 Question Id : 630680149758 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

In an emission determination, it was found that the concentration of barium in a place extract was linear over the 0-15 ppm range. What is the concentration of a solution that gave a reading of 87, when water was set at zero and the 15 ppm standard was set at 100?

Options :

1. 17 ppm
2. 22 ppm
3. 9 ppm
4. 13 ppm

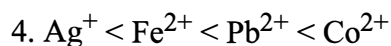
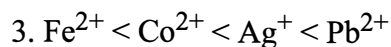
Question Number : 36 Question Id : 630680149759 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following increasing orders is correct with respect to equivalent conductance of ions at infinite dilution at 25°C?

Options :

1. $\text{Co}^{2+} < \text{Ag}^+ < \text{Fe}^{2+} < \text{Pb}^{2+}$
2. $\text{Fe}^{2+} < \text{Ag}^+ < \text{Pb}^{2+} < \text{Co}^{2+}$



Question Number : 37 Question Id : 630680149760 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following substances has the highest dielectric constant?

Options :

1. Benzene
2. Carbon tetrachloride
3. Aniline
4. Chloroform

Question Number : 38 Question Id : 630680149761 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

One of the limitations of hydrogen electrode in electrolysis process?

Options :

1. It gives no salt error.
2. It is not easy to get pure hydrogen.
3. It can be used over the entire pH range.
4. It is a fundamental electrode to which all measurements of pH are ultimately referred.

Question Number : 39 Question Id : 630680149762 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following bases has no keto group in nucleic acid?

Options :

1. Guanine
2. Uracil
3. Cytosine
4. Adenine

Question Number : 40 Question Id : 630680149763 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

How many hydrogen bonds are present between Adenine and Thymine?

Options :

1. Five
2. Two
3. Four
4. Three

Question Number : 41 Question Id : 630680149764 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following is an amine?

Options :

1. Estrogen
2. Androgen
3. Winstrol
4. Epinephrine

Question Number : 42 Question Id : 630680149765 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following is responsible for the preparation of the uterus for implantation of a fertilised egg?

Options :

1. Cortisone
2. Adenine
3. Progesterone
4. Thymine

Question Number : 43 Question Id : 630680149766 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following is an iodinated derivative of tyrosine?

Options :

1. Adrenaline
2. Thyroxine
3. Cytosine
4. Insulin

Question Number : 44 Question Id : 630680149767 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following reducing agents is added to reduce the disulphide linkages to prevent any tertiary protein folding?

Options :

1. 3-mercaptoethanol
2. 4-mercaptoethanol
3. 2-mercaptoethanol
4. 5-mercaptoethanol

Question Number : 45 Question Id : 630680149768 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following steroid hormones controls the level of excretion of water and salt by the kidney?

Options :

1. Testosterone
2. Adrenaline
3. Thyroxine
4. Mineralocorticoids

Question Number : 46 Question Id : 630680149769 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following tests is useful for distinguishing disaccharides and monosaccharides?

Options :

1. Barfoed's test
2. Saponification test
3. Melting test
4. Gabriel test

Question Number : 47 Question Id : 630680149770 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following sterols is NOT found in plants?

Options :

1. Stigmasterol
2. Ergosterol
3. Sitosterol
4. Campesterol

Question Number : 48 Question Id : 630680149771 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

N-acetylmuramic acid is a derivative of glucosamine, in which lactic acid is linked to oxygen at _____ of N-acetylglucosamine.

Options :

1. C-2
2. C-4
3. C-3
4. C-6

Question Number : 49 Question Id : 630680149772 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following carbohydrates is found mostly in the liver and muscles of animals?

Options :

1. Lactose

2. Glycogen
3. Starch
4. Maltose

Question Number : 50 Question Id : 630680149773 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Lipids are insoluble in _____.

Options :

1. chloroform
2. water
3. benzene
4. ether

Question Number : 51 Question Id : 630680149774 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What type of transition is possible in azo compounds?

Options :

1. $\sigma \rightarrow \sigma^*$
2. $n \rightarrow \pi^*$
3. $\pi \rightarrow \pi^*$
4. $\sigma \rightarrow \pi$

Question Number : 52 Question Id : 630680149775 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following solvents has the highest UV cut-off area?

Options :

1. Acetonitrile
2. Water
3. Methanol
4. Chloroform

Question Number : 53 Question Id : 630680149776 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What is the correct decreasing order of energy level of $n \rightarrow \sigma^*$?

Options :

1. $\text{CH}_3\text{-OH} > \text{CH}_3\text{-NH}_2 > \text{CH}_3\text{-SH}$
2. $\text{CH}_3\text{-NH}_2 > \text{CH}_3\text{-OH} > \text{CH}_3\text{-SH}$
3. $\text{CH}_3\text{-SH} > \text{CH}_3\text{-NH}_2 > \text{CH}_3\text{-OH}$
4. $\text{CH}_3\text{-SH} > \text{CH}_3\text{-OH} > \text{CH}_3\text{-NH}_2$

Question Number : 54 Question Id : 630680149777 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What are the isoelectric points of lysine and proline, respectively?

Options :

1. 5.6 and 4.9
2. 9.47 and 6.3
3. 3.5 and 9.5
4. 4.9 and 2.3

Question Number : 55 Question Id : 630680149778 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

In which of the following microscopes is the surface of the specimen irradiated with a very narrow beam of electrons?

Options :

1. Emission spectroscopy
2. Scanning electron microscopy
3. X-ray spectroscopy
4. Transmission electron microscopy

Question Number : 56 Question Id : 630680149779 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

In Scanning electron microscopy, the intensity or the number of secondary electrons doesn't depend on

Options :

1. the number of electrons reabsorbed by surrounding
2. the number of electrons ejected
3. the chemical composition of the irradiated object
4. the liberated electrons from source are very few

Question Number : 57 Question Id : 630680149780 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

In SEM, the magnified image of the surface topography of the specimen is obtained on

Options :

1. the anode ray tube
2. the cathode ray tube
3. vacuum chamber
4. phosphorescent screen

Question Number : 58 Question Id : 630680149781 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following methods are provided by NMR spectrometer for determining structure in soluble chemical compounds?

Options :

1. Inaccurate and non-destructive
2. Accurate and destructive
3. Accurate and non-destructive
4. Inaccurate and destructive

Question Number : 59 Question Id : 630680149782 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Isoelectric point is a value of

Options :

1. Molarity
2. Gram molecular weight
3. Exact pH value
4. Normality

Question Number : 60 Question Id : 630680149783 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Cation exchange chromatography retains positively charged cations, as the stationary phase in the column displays negatively charged functional group, such as:

Options :

1. aniline
2. nitrobenzene
3. phosphoric acid
4. chloroform

Question Number : 61 Question Id : 630680149784 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following are the weak acid cation exchanger, and strong base anion exchanger, respectively?

Options :

1. Sulphuric acid and amine

2. Carboxylic acid and amine
3. Carboxylic acid and quaternary amine
4. Sulphuric acid and quaternary amine

Question Number : 62 Question Id : 630680149785 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Acetylcholine esterase is purified by using:

Options :

1. affinity chromatography
2. cation exchanger
3. anion exchanger
4. gel filtration

Question Number : 63 Question Id : 630680149786 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following are used to purify Cytochrome-C and alpha amylase, respectively?

Options :

1. Q-Sepharose and DEAE-cellulose
2. Amberlite CG-50 and Sephacryl S-300
3. Amberlite CG-50 and DEAE-cellulose
4. DEAE-cellulose and Sephacryl S-300

Question Number : 64 Question Id : 630680149787 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Alkaline protease and peroxidase are purified/separated by using

Options :

1. cation exchangers
2. affinity chromatography
3. anion exchangers
4. gel filtration

Question Number : 65 Question Id : 630680149788 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following commercial resins is related to strong base?

Options :

1. Amberlite IR-200
2. Zerolite MPF
3. XFS 4195
4. Lewatit MP200

Question Number : 66 Question Id : 630680149789 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following types of chromatography is used for separating compounds that have hydrophobic moieties?

Options :

1. Normal phase chromatography
2. Ion exchange chromatography
3. Reversed phase chromatography
4. Gel permeation chromatography

Question Number : 67 Question Id : 630680149790 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

In which of the following types of paper chromatography does the mobile phase move horizontally over a circular sheet of paper?

Options :

1. Two-dimensional paper chromatography
2. Radial paper chromatography
3. Ascending paper chromatography
4. Descending paper chromatography

Question Number : 68 Question Id : 630680149791 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What percentage of pentosans are present in Whatman paper?

Options :

1. 0.01% – 0.4%
2. 8.0% – 12.5%
3. 12.0% - 18.0%
4. 0.4% – 0.8%

Question Number : 69 Question Id : 630680149792 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following statements is INCORRECT with respect to paper chromatography?

Options :

1. In paper chromatography, the solvent moves by capillary action.
2. Paper chromatography is based on solid-liquid adsorption.
3. Paper chromatography has longer stationary phase.
4. Paper chromatography requires less amount of substance.

Question Number : 70 Question Id : 630680149793 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following is partition chromatography?

Options :

1. Liquid-liquid chromatography
2. Ion exchange chromatography
3. Liquid-solid chromatography
4. Gel permeation chromatography

Question Number : 71 Question Id : 630680149794 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following chromatography types is the best for separation of an antibiotic from a broth mixture?

Options :

1. Thin layer chromatography
2. Paper chromatography
3. High performance liquid chromatography
4. Column chromatography

Question Number : 72 Question Id : 630680149795 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following statements is INCORRECT with respect to gas chromatography?

Options :

1. In gas chromatography, the sample to be tested must be volatile.
2. In Gas chromatography mobile phase could be a gas
3. Gas chromatography is done at low temperatures.
4. In gas chromatography, the stationary phase is a low volatile liquid adsorbed on a solid support

Question Number : 73 Question Id : 630680149796 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following will change into a white powder after it is heated, due to the loss of water during crystallisation?

Options :

1. Green vitriol
2. Potash alum
3. Benzaldehyde
4. Blue vitriol

Question Number : 74 Question Id : 630680149797 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following statements is correct with respect to crystallisation and evaporation?

Options :

1. Crystallisation converts a liquid into its gaseous phase at a specific high temperature.
2. Crystallisation is less efficient because some solids decompose on heating.
3. Evaporation is used in separating pure solid from liquid with high efficiency.
4. Crystallisation is the formation of solid crystals from a liquid.

**Question Number : 75 Question Id : 630680149798 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Which of the following statements is INCORRECT with respect to fractional distillation?

Options :

1. Fractional distillation is a process of separation of 2 immiscible liquids.
2. Fractional distillation is different from distillation because of the presence of fractionating column.
3. Difference in the boiling point of 2 liquids fractional distillation is less than 25 K.
4. Liquid nitrogen gas cannot be separated from air using fractional distillation.

**Question Number : 76 Question Id : 630680149799 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

One milliequivalent is:

Options :

1. 1000 chemical equivalents
2. 100 chemical equivalents
3. 1/1000 chemical equivalents
4. 1/100 chemical equivalents

**Question Number : 77 Question Id : 630680149800 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

Which of the following statements is correct with respect to molarity and molality?

Options :

1. Molarity has kilograms of solvent and molality depends on temperature of solution
2. Molarity depends on temperature of solution and molality depends on volume of solution
3. Molarity depends on volume of solution and molality depends on atmospheric pressure
4. Molarity depends on temperature of solution and molality has kilograms of solvent.

**Question Number : 78 Question Id : 630680149801 Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Wrong Marks : 0.5**

The molar mass and equivalent masses of $\text{Ca}(\text{OH})_2$, respectively, are: (Atomic number of Ca, O and H are 20, 8 and 1 respectively)

Options :

1. 1 and 2
2. 37 and 74

3. 74 and 37

4. 2 and 1

Question Number : 79 Question Id : 630680149802 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Parts per million can be expressed as _____.

Options :

1. mg/l
2. gm/L
3. ml/kg
4. l/kg

Question Number : 80 Question Id : 630680149803 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following processes is the most widely used chemical precipitation process?

Options :

1. Carbonate precipitation
2. Nitrates precipitation
3. Hydride precipitation
4. Hydroxide precipitation

Question Number : 81 Question Id : 630680149804 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following organic reagents is used for the reduction and determination of gold?

Options :

1. Pinene
2. Hydroquinone
3. Cumene
4. Styrene

Question Number : 82 Question Id : 630680149805 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following methods is NOT suitable for extraction techniques?

Options :

1. Enzyme assisted extraction
2. Ultrasound assisted extraction
3. X-ray diffraction assisted extraction
4. Solvent extraction

Question Number : 83 Question Id : 630680149806 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What are the pH ranges of Thymol blue and methyl orange indicators, respectively?

Options :

1. 8.0-9.6 and 9.1-10.6
2. 8.0-9.6 and 3.1-4.4
3. 9.1-10.6 and 3.1-4.4
4. 9.1-10.6 and 8.0-9.6

Question Number : 84 Question Id : 630680149807 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What are the colours of Phenol red indicator in acidic medium and basic medium, respectively?

Options :

1. Colourless and blue
2. Yellow and blue
3. Colourless and red
4. Yellow and red

Question Number : 85 Question Id : 630680149808 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following titrants is NOT used in non-aqueous titrations of weak acids?

Options :

1. Calcium methoxide
2. Potassium methoxide
3. Strontium methoxide
4. Aluminium methoxide

Question Number : 86 Question Id : 630680149809 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following nonaqueous solvents is an example of Protophilic solvents?

Options :

1. Ketone
2. Formic acid
3. Chloroform
4. Acetonitrile

Question Number : 87 Question Id : 630680149810 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Mayonnaise is an example of what type of solution?

Options :

1. Solid sol
2. Solid aerosol
3. Emulsion
4. Gel

Question Number : 88 Question Id : 630680149811 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Antifreeze is an example of:

Options :

1. solid in solid
2. liquid in liquid solution
3. gas in liquid
4. Liquid in gas

Question Number : 89 Question Id : 630680149812 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

If 16.18 is the actual value of a quantity and 19.53 is the experimentally measured value, then the absolute error will be: (in percentage)

Options :

1. 35.71
2. 3.35
3. 19.53
4. 10.18

Question Number : 90 Question Id : 630680149813 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Who proposed the double helical structure of DNA?

Options :

1. Joseph John Thomson
2. Francis Crick
3. Galileo Galilei
4. Charles Darwin

Question Number : 91 Question Id : 630680149814 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following bases contains an amino acid group at C-4?

Options :

1. Adenine
2. Guanine
3. Cytosine

4. Thymine

Question Number : 92 Question Id : 630680149815 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Cyclic voltammetry, which has a three-electrode system, does NOT consist of

Options :

1. counter electrode
2. hydric electrode
3. working electrode
4. reference electrode

Question Number : 93 Question Id : 630680149816 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What are the equivalent masses of Ca(OH)_2 and H_2SO_4 , respectively?

Options :

1. 28 and 46
2. 74 and 98
3. 37 and 49
4. 37 and 98

Question Number : 94 Question Id : 630680149817 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

What are the pKa values of Bromocresol green and Cresol purple, respectively?

Options :

1. 2.6 and 5.6
2. 5.6 and 9.1
3. 4.7 and 8.3
4. 3.8 and 8.7

Question Number : 95 Question Id : 630680149818 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Calculate the absolute error value when actual length is 28 mm and measured length is 25.4 mm respectively.

Options :

1. 53.4
2. 25.4
3. 28
4. 2.6

Question Number : 96 Question Id : 630680149819 Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Find the relative error value, where the actual and measured values are 252.14 mm and 249.02 mm.

Options :

1. 0.0123 %
2. 1.2358 %
3. 0.2561 %
4. 0.1963 %

Question Number : 97 Question Id : 630680149820 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following statements is INCORRECT with respect to gravimetric analysis?

Options :

1. Gravimetric analysis is potentially less accurate than volumetric analysis.
2. Gravimetric analysis avoids problems with temperature fluctuation, with volumetric analysis.
3. Gravimetric analysis is used for determination of purity, and thermal stability of both primary and second standard.
4. Gravimetric analysis is used for determination of composition of complex mixtures.

Question Number : 98 Question Id : 630680149821 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following indicators is colourless in acidic medium?

Options :

1. Methyl yellow
2. Trinitro benzoic acid
3. Phenol red
4. Alizarin yellow

Question Number : 99 Question Id : 630680149822 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following precipitate is formed when glycol reacts with periodate ion?

Options :

1. I^-
2. OH^-
3. IO_3^-
4. SO_4^{2-}

Question Number : 100 Question Id : 630680149823 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrong Marks : 0.5

Which of the following rainfall types has intensity traced to 2.5 mm/h?

Options :

1. Moderate rain
2. Light rain
3. Heavy rain
4. Violent rain