JUNIOR SCIENTIFIC OFFICER, CHEMICAL EXAMINATIONS LABORATOR	UNIOR SCIENTIFIC OFFICER.	CHEMICAL EXAMIN	ATIONS LABORATORY
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EXAM DATE:10-02-2017

1. Which of the following amino acids are both Ketogenic and Glucogenic?
A.Leucine
B.Alanine
C.Asparic acid
D.Isoleucine
Ans:D
2. The end product of pyrimidine metabolism in animal cells is:
A.Beta-alanine
B.Ribitol
C.Uric acid
D.Urea
Ans:A
3. The lipoprotein which helps the transport of TAG synthesized by the liver is:
A.Chylomicrones
B.VLDL
C.LDL

D.HDL
Ans:B
4. The deficiency of which Vitamin results in Pernicious
Anemia:
A.Thiamine
B.Riboflavin
C.Niacin
D.Cobalamin
Ans:D
5.Activation of Gluconeogenesis in liver is achieved by inhibiting one of the key enzymes in the Glycolysis. Which of the following Enzyme is inhibited?
A.Hexokinase
B.Phospho Fructo Kinase-1
C.Pyruvate Kinase
D.Phospho Fructo Kinase-2
Ans:C
6. Which of the following is an uncoupler of Electron Transport Chain?
A.2,4 Dinitro Phenol
B.Cyanide
b.Cyaniue

C.Amytal
D.Antimycin A
Ans:A
7. Which of the following ions are specifically carried by Valinomycin, a carrier ionophore?
A.Na+
B.Ca+
C.K+
D.CI-
Ans:C
8. The cofactor of Glycogen phosphorylase is:
A.TPP
B.PLP
C.NADH
D.CoA
Ans:B
9. The metal atoms catalyses the decarboxylation of Dimethyl
Oxaloacetate is:
A.Cu & Ni
B.Cu & Co

C.Na & K
D.Mg & Mn
Ans:A
10. Which of the following is a Cysteine Protease?
A.Thrombin
B.Subtilisin
C.Elastase
D.Papain
Ans:D
11. The unique C-Terminal sequence of ER-resident proteins of
mammals is:
A.Leu-Asp-Glu-Lys
B.Lys-Asp-Glu-Leu
C.leu-Glu-Asp-Lys
D.Lys-Asp-Leu-Glu
Ans:B
12.In glycogen metabolism which hormonal stimulation
decreases the intracellular concentration of CAMP:
A.Glucagone
B.Epinephrine

C.Insulin
D.Nor epinephrine
Ans:C
13.Quabain,a cardiac glycoside specifically inhibit which of the active transport system?
A.H+-K+ATPase
B.Ca+ATPase
C.Na+-K+ATPase
D.H+ATPase
Ans:C
14. The torsion angles for a plannar, fully extended polypeptide
chain is:
A.90 Degree
B.180 Degree
C.120 Degree
D.60 Degree
Ans:B
15. From which fatty acid Prosta-glandins are synthesized:
A.Linoleic acid
B.Linolenic acid

C.Oleic acid
D.Palmitic acid
Ans:A
16. Which of the following amino acids is degraded finally to Scuccinyl CoA?
A.Aspargine
B.Proline
C.Methionine
D.Arginine
Ans:C
17. Which of the following antibiotic is a potent inducer of hepatic-drug metabolizing enzymes?
A.Streptomycin
B.Erythromycin
C.Tetracycline
D.Rifampin
Ans:D
18. Which of the following detergent is commonly used to release integral proteins from its memnbranes?
A.CNBr
B.Triton x 100

C.Urea
D.DMSO
Ans:B
19.When PH=PKa, the ratio of conjugate base to acid is:
A.1:100
B.1:1000
C.1:10
D.1:1
Ans:D
20. Which class of enzyme catalyses the oxidation of an alcoho to an aldehyde?
A.Ligase
B.Isomerase
C.Oxidoreductase
D.Lyase
Ans:C
21. The amyloid protein deposition associated with Alzheimer's disease is composed of:
A.Alpha-helix
B.Beta sheet

C Data Turas
C.Beta Turns
D.Random coil
Ans:B
22.An uncompetitive inhibitor binds to:
A.Enzyme-substrate complex
B.Enzyme
C.Product
D.Substrate
Ans:A
23. The coenzyme involved in Carboxylation reactions is:
A.FAD
B.CoA
С.ТРР
D.Biotin
Ans:D
24. Which of the following is not a component of dietary fiber?
A.Cellulose
B.Agar
C.Lignin
D.Pectin

Ans:B

25. The component of bacterial RNA polymerase responsible for recognizing the prometer is:

A.Alpha subunit	
B.Beta subunit	
C.Sigma subunit	

Ans:C

D.Rho protein

26. Which of the following virus has double stranded RNA as genetic material?

A.Tobacco mosaic virus

B.Influenza virus

C.Rous sarcoma virus

D.Reovirus

Ans:D

27. The normal immunological role of the CD8+ve T-cell is:

A.Secretes antibodies

B.Rejects transplanted tissue

C.Kills virus infected cells

D.Helps beta-lymphocytes to develop into plasma cells

Ans:C

28.In Nitrogen cycle, Anammox bacteria convert:

A.Ammonia to nitrite and nitrate

B.Ammonia and nitrite to nitrogen

C.Nitrate to Nitrogen

D. Nitrogen to Nitrite

Ans:B

29. Alpha-Amanitin is senisitive to:

A. Prokaryotic RNA Polymerase

B.Eukaryotic RNA Polymerase I

C.Mitochondrial RNA Polymerase

D.Eukaryotic RNA Polymerase II

Ans:D

30. Which DNA binding domain is function as transcriptional regulators in eukaryotes?

A.Homeodomain

B.Leucine zipper

C.Helix turn helix

D.Basic helix loop helix

Ans:A

31. Which antibiotic mimic the structure of UDP N-acetyle glucosamine there by blocks the first step in the synthesis of the core oligosaccharide of glycoprotein?

A.Streptomycin
B.Tunicamycin
C.Puromycin
D.Tetracycline
Ans:B
32.In mammals,'the telomerase form a special structure called'T loop'.Which of the following protein helps the formation of 'T-Loop'?
A.TRF-1
B.CRP 2
C.TRF 2
D.TFR 1
Ans:C
33.All of the following post translational modifications are occur within the Golgi EXCEPT:
A.Acetylation of Histones
B.Sulfation of Secretory proteins
C.Phosphorylation of Casein

D.N-Glycosilation of Extra Cellular Matrix proteins
Ans:A
34. Which metal ion is present in Ascorbic acid Oxidase?
A.Zn
B.Mg
C.Fe
D.Cu
Ans:D
35.Neutrophil defensins are:
A.Anti-toxins
B.Enzymes
C.Glycolipids
D.Peptide antibiotics
Ans:D
36. The resolving power of unaided human eye is:
A.100 meu m
B.600 meu m
C.20 meu m
D.400 meu m
Ans:A

37.Acid phosphatase is the marker enzyme for which sub cellular fraction

A.Cytosol
B.Peroxisomes
C.Lysosomes
D.Microsomes
Ans:C
38. Which of the following process involved in the detoxification of Acetamilide to p-acetyl amino phenol?
A.Acetylation
B.Hydrolysis
C.Reduction
D.Oxidation
Ans:A
39. Which of the follllowing is a common biological modification that promotes the formation of Z-DNA?
A.Methylation of Cytosine residue
B.Phosphorylation of Cytosine residue
C.Methylation of Thymine residue
D.Phosphorylation of Thymine residue
Ans:A

40.In the transcription process, which DNA strand act as the template?

template?
A.Sense strand
B.Antisense strand
C.Plus strand
D.Coding strand
Ans:B
41. The ion exchange resin are usually mixed with a compound which prevent he resin from swelling is:
A.Styrene
B.Acrylinc acid
C.Divinyl benzene
D.Benzilic phosphoric acid
Ans:C
42. Which of the following conformer of cyclohexane is more stable?
A.Chair form
B.Boat form
C.Half-Chair form
D.Twist boat form
Ans:A

43. Which photochemical reaction involves the formation of oxetane?

A.Photodimerization reaction
B.Norrish type 1 reaction
C.Barton reaction
D.Paterno-Buchi reaction
Ans:D
44.An ionization suppressant element used in Augur Electron
Spectroscopy:
A.Na
B.N
C.Cd
D.H
Ans:A
45.Mond's process makes use of the formation of:
A.Cr(CO)5
B.Ni(CO)5
C.Cr(CO)6
D.Ni(CO)4
Ans:D

46. The co-ordination number ion in the ionic solids NaCl and CsCl respectively are:

49.In comparison to the frequency of the EPR transition, the NMR transition frequency is:

A.Much higher
B.Much lower
C.Almost same
D.None of these
Ans:B
50. The particle which obey Bose-Einstein statistics is:
A.Electron
B.Neutron
C.Graviton
D.Muon
Ans:C
51. The exchange capacity of an anion exchange generally increases with:
A.Increase pH
B.Decrease of pH
C.pH has no effect
D.None of these
Ans:B
52 In amherometric titrations a titrant react with a metal in

which reduces:
A.Diffusion current
B.Residual current
C.Migration current
D.Limiting current
Ans:A
53.Both turbidimetry and nephelometry are based on:
A.Diffraction
B.Refraction
C.Reflection
D.Scattering
Ans:D
54.[4]annulene is:
A.Aromatic
B.Antiaromatic
C.Nonaromatic
D.None of these
Ans:B
55.In a crystal, a plane cuts intercepts 2a, 3b and c along the crystallographic axis. The Miller indices of the plane are:

A.1,2,3
B.2,3,1
C.6,1,1
D.3,2,6
Ans:D
56. The reagent used in coulometric titrations:
A.NaOH
B.Kcl
C.Electrons
D.Protons
Ans:C
57.Linear molecules with C axis and a plane belong to
point group
58. The efficiency of a chromatographic column is:
A.Directly proportional to polarity of the mobile phase
B.Directly proportional to plate height
C.Inversely proportional to plate count
D.Inversely proportional to plate height
Ans:D
59. How many stereoisomers are possible for the following

compounds?

CH3CH2CH(Br)CH(CI)CH3

A.4

B.8

C.16

D.2

Ans:A

60.Thermal isomerisation of 1,5 dienes by a 3,3 sigmatropic shift is known as:

A.Cope rearrangement

B.Claisen rearrangement

C.Di-pi-methane rearrangement

D.Paterno-Buchi reaction

Ans:A

61. The stereoisomers which are non-superimposable and are not related as object and mirror images are called:

A.Enantiomers

B.Racemic mixture

C.Meso Compounds

D.Diastereoisomers

Ans:D

62. An example of cyclo addition reaction:

A.Diels-Alder Reaction

B.Darzens reaction

C.Perkin reaction

D.Reformatsky reaction

Ans:A

63.[CoF6]4-is:

A.Outer orbital and diamagnetic

B.Inner orbital and paramagnetic

C.Inner orbital and diamagnetic

D.Outer orbital and paramangnetic

Ans:D

64. The distribution constant for iodine between an organic solvent and water is 85. The concentration of iodine remaining in the aqueous layer after extraction of 50 ml of 1 x 10-3 M iodine with 50 ml of organic solvent will be:

A.2.16 x 10-5 M

B.1.16 x 10-5 M

C.1.16 x 10-6 M

D.2.16 x 10-6 M

Ans:B
65.The IR spectra of CO2 molecules shows only:
A.3 band
B.4 band
C.2 band
D.1 band
Ans:C
66.The number of Bravals lattices pertaining to the cubic
system is:
A.14
B.8
C.3
D.6
Ans:C
67. When a ketonic group attached to a chiral centre under goes nucelophilic addition with a metal hydride reagent, the relative configuration of the predominant isomer is predicted by:
A.Mills rule
B.Cram's rule
C.Distance rule

D.Displacement rule

Ans:B

68.In infrared spectroscopy which frequency range is known as the fingerprint region?

A.400-2500 cm-1

B.900-600 cm-1

C.1400-600 cm-1

D.600-250 cm-1

Ans:C

69. For a reaction the rate constant is doubled when the temperature is increased from 17 Degree C to 37 Degree C. What is the activation energy for the reaction?

A.3.1 kcal

B.6.2 kcal

C.12.4 kcal

D.24.8 kcal

Ans:B

70. The distribution of probability density calculated from Maxwell-Boltzmann statistics in an arbitrary chosen directions spreads with:

A.Increasing temperature

B.Decreasing temperature
C.Temperature is independent
D.None of these
Ans:A
71. Among the following which is the spin forbidden process:
A.Fluorescence
B.Phosphorescence
C.Internal conversion
D.Inter system crossing
Ans:D
72. Which of the following nuclei will have a magnetic moment?
A.2D1
B.12C6
C.16O8
D.32S16
Ans:A
73.In which technique temperature difference between sample and reference is recorded as a function of time?
A.TGA

B.DTA
C.Thermometric titration
D.Derivative TGA
Ans:B
74.An electron volt is equal to:
A.4.4186 x 1014 Hz
B.1.5 x10-6m
C.1.602x10-12 erg
D.1.5x10-10erg
Ans:C
75. The point group of xenon oxytetrafluride is:
A.C2v
B.C4v
C.C meu
D.C3v
Ans:B
76. Which of the following compound exhibit optical activity?
A.2-chloro propane
B.3-chloro propane
C.2-Chloro butane

D.4-chloro heptanes
Ans:C
77. Which of the following is aromatic?
A.Tropylium cation
B.Tropylium anion
C.Biphenyl
D.Cyclopentane
Ans:A
78. The planes which will be absent in simple cubic system is:
A.100
B.200
C.111
D.110
Ans:B
79. Which of the following wave length ranges is associated with UV spectroscopy?
A.0.8-500 meu m
B.400-100 nm
C.380-750 nm
D.0.01-10 nm

83. The author of the play' Adukkalayil Nunnum Arangathekku':

A.M.R.B
B.V.T.Bhattathirippad
C.Premji
D.Ponkunnam Varkey
Ans:B
84. Founder and proprietor of Swadeshabhimani newspaper:
A.Ramakrishna Pillai
B.G.P.Pillai
C.Vakkom Maulavi
D.Makthi Thangal
Ans:C
85. Founder of Prathaksha Raksha Daiva Sabha:
A.Pampady John Joseph
B.Poikayil Yohannan
C.Charathan Solomon
D.T.T.Kesava Sastri
Ans:B
86. The present Chancellor of Germany (2016):
A.Angela Merckel

B.Karoline Linnert
C.Katja Kipping
D.Frauke Petry
Ans:A
87.Who is known as Burmese Gandhi?
A.Khin Khin Win
B.Aung San Su Chi
C.May Win Myint
D.Zin Mar Aung
Ans:B
88.Who designed Indian National Flag?
A.Subash Chandra Bose
B.Pingali Venkaiyyah
C.B.G.Tilak
D.B.M.Malabari
Ans:B
89. Whose autobiography is the Turbulent Years 1980-1996?
A.Pranab Mukherjee
B.A.B.Vajpayee
C.Prathiba Patel

D.K.R.Narayanan
Ans:A
90.In which country INA was oranised?
A.India
B.Sri Lanka
C.Singapore
D.Canada
Ans:C
91.Who is known as the Grand Old Man of India?
A.Mahatma Gandhi
B.Subash Chandra Bose
C.W.C.Bannerjee
D.Dadabai Naoroji
Ans:D
92. Which day is observed as World Cancer Day?
A.February 4 th
B.March 4 th
C.April 4 th
D.May 4 th
Ans:A

93. Who is the first President of Travancore State Congress?

A.T.M.Varghese **B.**Annie Mascrene C.Pattom Thanu Pillai D.G.P.Pillai Ans:C 94. Who is the founder of Vala Samudaya Parishkarini Sabha? A.Ayyankali B.Vaikunta Swamikal C.Pandit K.P.Karuppan D.T.T.Kesava Sastri Ans:C 95. Who is the author of Daiva Dasakam? A.Chattampi Swamikal B.Sree Narayana Guru C.Thaikkad Ayya D.Brahmananda Sivayogi Ans:B 96. Who was the author of Adi Bhasha, a research work in the

field of linguistics?

A.Sri Narayana Guru
B.C.Krishnan
C.Pandit karuppan
D.Chattampi Swamikal
Ans:D
97. The Magna Carta of modern Travancore:
A.Vaikom Satyagraha
B.Guruvayur Satyagraha
C.Kundara Proclamation
D.Temple Entry Proclamation
Ans:D
98.Head Quarters of Kerala Floklore Academy:
98.Head Quarters of Kerala Floklore Academy:
98.Head Quarters of Kerala Floklore Academy: A.Kannur
98.Head Quarters of Kerala Floklore Academy: A.Kannur B.Kozhikode
98.Head Quarters of Kerala Floklore Academy: A.Kannur B.Kozhikode C.Kasargod
98.Head Quarters of Kerala Floklore Academy: A.Kannur B.Kozhikode C.Kasargod D.Wayanad
98.Head Quarters of Kerala Floklore Academy: A.Kannur B.Kozhikode C.Kasargod D.Wayanad Ans:A
98.Head Quarters of Kerala Floklore Academy: A.Kannur B.Kozhikode C.Kasargod D.Wayanad Ans:A 99.First political drama of kerala:

