

155/23

Question Booklet Alpha Code

A

Question Booklet Sl. No.

Total Number of Questions : 100

Time : 90 Minutes

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four versions of Question Booklets with Question Booklet Alpha Code viz. **A, B, C & D**.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the Question Booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a Question Booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator **IMMEDIATELY**.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same alpha code.
6. The Question Booklet will be sealed at the middle of the right margin. Candidate should not open the Question Booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him/her contains all the 100 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the Question Booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices **(A), (B), (C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

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1. The supplement to the second edition of the Pharmacopoeia of India was published on
A) 1955 B) 1966 C) 1968 D) 1975
2. Which of the following is an example for thermosetting plastic used as packaging material for pharmaceuticals ?
A) Nylon B) Polystyrene
C) Phenol formaldehyde resin D) Poly methyl methacrylate
3. The size reduction equipment that does not work on the principle of attrition
A) Roller mill B) Ball mill
C) Fluid energy mill D) None of the above
4. Freeze dryer works on the principle of
A) Evaporation B) Sublimation
C) Distillation D) Vacuum drying
5. Which among the following statement is not correct about an evaporating still ?
A) Cannot operate under reduced pressure
B) Solvent can be recovered
C) Suitable for thermolabile materials
D) All of the above
6. The equation correlating the factors affecting rate of filtration is called
A) Darcy's law B) Stokes equation
C) Poiseuille's equation D) Reynolds number
7. Ionizing radiation that can be used as sterilizing agent
A) Alpha rays B) Beta rays C) Gamma rays D) UV rays
8. What is the use of liquid paraffin in the production of tablets ?
A) Binding agent B) Anti-adhesive agent
C) Disintegrating agent D) Diluent
9. Process specifically used to encapsulate dry powder into soft gelatin capsule
A) Accogel process B) Rotary die process
C) Plate process D) Microencapsulation

19. An ultra short acting barbiturate
A) Methohexital
B) Phenobarbitone
C) Butobarbitone
D) Cyclobarbitone
20. An antineoplastic agent
A) Oxypertine
B) Pralidoxime
C) Mytomycin
D) Biperiden
21. Koshland put forward
A) Lock and key theory
B) Acid base theory
C) Co enzyme – enzyme theory
D) Induced fit theory
22. Bial's test is used to identify
A) Pentoses
B) Hexoses
C) Dextrin
D) Starch
23. A natural antioxidant
A) Tocopherol
B) Menadione
C) Menaquinone
D) Retinoic acid
24. Water soluble portion of starch is
A) Amylopectin
B) Amylose
C) Agarose
D) Trehalose
25. Abnormal variation in the size of erythrocytes is called
A) Hypochromasia
B) Ovalocytosis
C) Anisocytosis
D) Poikilocytosis
26. The naturally occurring form of amino acid in proteins
A) L Aminoacids only
B) D Aminoacids only
C) Both D and L Aminoacids
D) None of these
27. Lignoceric acid is the fatty acid present in
A) Cerebron
B) Nervon
C) Cardiolipin
D) Kerasin

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28. Bishop's weed is the synonym of
A) Fennel
B) Cumin
C) Dill
D) Ajowan
29. Crow fig is the synonym of
A) Nux vomica
B) Nutmeg
C) Clove
D) Colchicum seed
30. Pottasium nitrate is a chemical constituent of
A) Vasaka
B) Punarnava
C) Rauwolfia
D) Gymnema
31. In UV light, Ergot shows
A) Blue fluorescence
B) Red fluorescence
C) Orange fluorescence
D) Green fluorescence
32. Name the drug belonging to Scrophulariaceae.
A) Shankhpushpi
B) Ergot
C) Picrorhiza
D) Ashwagandha
33. East Indian root is a substitute of
A) Rauwolfia
B) Ginger
C) Liquorice
D) Ipecac
34. The crude drug used for detection of boric acid
A) Benzoin
B) Ginger
C) Turmeric
D) Guggul
35. The following drugs are given with purgatives to counteract gripping effect except
A) Hyocyamus leaf
B) Belladona leaf
C) Datura
D) Coriander
36. Cinchona cultivation needs a soil with
A) Acidic pH
B) Basic pH
C) Neutral pH
D) None of the above

37. The unripe capsules of Opium are incised to collect latex during the
A) Morning
B) Afternoon
C) Night
D) Early morning
38. Quinazoline alkaloids are present in
A) Vasaka
B) Cinchona
C) Aconite
D) Vinca
39. Oxytocic effect action of Ergot is due to
A) Ergotamine
B) Ergocryptine
C) Ergocristine
D) Ergometrine
40. First pass effect is seen in which route of administration ?
A) Oral route
B) Sublingual
C) Intramuscular
D) Intra venous
41. Following are bulk forming laxatives except
A) Psyllium
B) Ispaghula
C) Methyl cellulose
D) Liquid paraffin
42. The plasma half life of digoxin is
A) 12 hours
B) 24 hours
C) 36 hours
D) 5 days
43. Pheniramine is a
A) Schedule G drug
B) Schedule H drug
C) Schedule C drug
D) Schedule X drug
44. Opium can be exported on behalf of
A) State government
B) Central government
C) Both A) and B)
D) None of the above

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45. The personal quality needed for a good salesman is
- A) Good memory capacity
 - B) Good knowledge of the product
 - C) Good voice with nice tone of speech
 - D) Sincere and intelligent person
46. The formula for calculating re-order level in inventory control is
- A) Minimum consumption during the period \times Maximum re-order period
 - B) Maximum consumption during the period \times Minimum re-order period
 - C) Normal consumption during the period \times Minimum re-order period
 - D) Average consumption during the period \times Minimum re-order period
47. The water soluble substances in absorbent cotton wool I.P., should not be more than
- A) 0.1%
 - B) 0.5%
 - C) 0.9%
 - D) 2%
48. The material commonly used for making disposable syringe is
- A) Medical grade poly ethylene terephthalate (PET)
 - B) Medical grade poly vinyl chloride (PVC)
 - C) Medical grade polypropylene
 - D) Medical grade polystyrene
49. The recommended daily requirement of Vitamin C for adults is
- A) 10 mg
 - B) 60 mg
 - C) 120 mg
 - D) 250 mg
50. Which of the following gram negative diplo cocci bacteria can cause an infection in genito-urinary tract ?
- A) Treponema pallidum
 - B) Salmonella typhi
 - C) Neisseria gonorrhoeae
 - D) Escherichia coli
51. Which of the following compound has the functional group – CHO ?
- A) 1-pentanol
 - B) 2-butanone
 - C) Propanal
 - D) 1-butene

52. Which among the following are not a structural isomerism ?

- i. Functional isomerism
- ii. Stereo isomerism
- iii. Ring chain isomerism
- iv. Optical isomerism

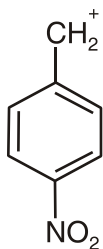
A) All the above

B) Both i and iii

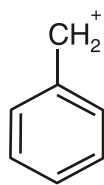
C) Both ii and iv

D) None of these

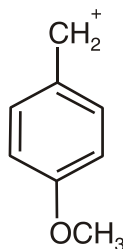
53. What is the correct decreasing order of stability of following cations ?



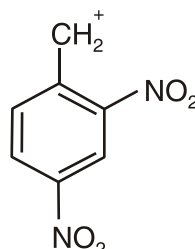
i



ii



iii



iv

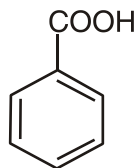
A) ii > i > iii > iv

B) iv > i > ii > iii

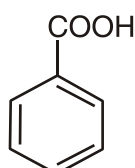
C) iii > ii > i > iv

D) None of the above

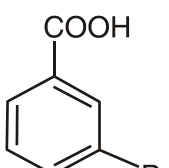
54. Which among the following is most acidic ?



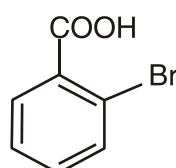
i



ii



iii



iv

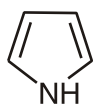
A) i > ii > iii > iv

B) iv > iii > ii > i

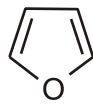
C) i > ii > iv > iii

D) i > iv > ii > iii

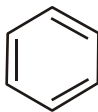
55. Which among the following is least aromatic ?



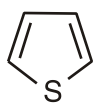
A



B



C



D

A) A

B) B

C) C

D) D

56. Markovnikov's selectivity in addition reaction is observed in which of the following alkene ?

- A) Propene
 B) 1-butene
 C) 2-methyl-1-butene
 D) All the above

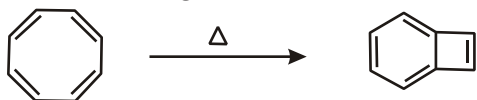
57. Reaction of Grignard reagents to carbonyl compounds belongs to

- A) Electrophilic addition
 B) Electrophilic substitution
 C) Nucleophilic addition
 D) Nucleophilic substitution

58. Which among the following is the catalyst for Friedel – Crafts alkylation reaction ?

- A) Pd
 B) AlCl_3
 C) Pt
 D) All the above

59. The following reaction is an example for



- A) Electrocyclic reaction
 B) Cycloaddition reaction
 C) [1, 3] – sigmatropic rearrangement
 D) [3,3] – sigmatropic rearrangement

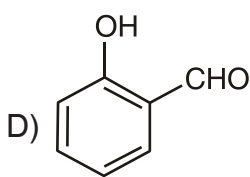
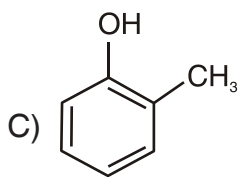
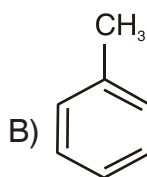
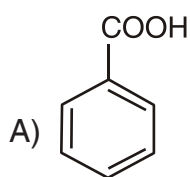
60. The metal used in Wurtz-Fittig reaction is

- A) Iron
 B) Sodium
 C) Potassium
 D) Palladium

61. Which among the following is the reagent for distinguishing primary, secondary and tertiary alcohols ?

- A) Tollen's reagent
 B) Fehling's reagent
 C) Millon's reagent
 D) Lucas' reagent

62. Phenol on Reimer-Tiemann reaction gives



63. Which among the following is not a copolymer ?
A) PVC
B) SBR
C) Nylon 6 6
D) None of the above
64. Which among the following is a polysaccharide ?
A) Maltose
B) Sucrose
C) Cellulose
D) Cellobiose
65. The nucleobase not found in RNA is
A) Adenine (A)
B) Cytosine (C)
C) Guanine (G)
D) Thymine (T)
66. A coenzyme tightly and permanently bound to a protein is called
A) Cofactor
B) Cosubstrate
C) Prosthetic group
D) Apoenzyme
67. _____ are used to kill or eliminate microorganisms and inactivate viruses on inanimate objects and surfaces.
A) Antiseptics
B) Disinfectants
C) Antiallergic
D) Antipyretics
68. The RMS velocity of gas molecules is directly proportional to which of the following ?
A) Mass
B) Temperature
C) Pressure
D) Volume
69. At what conditions compressibility factor of Nitrogen gas be closest to unity ?
A) High temperature and high-pressure
B) High temperature and low-pressure
C) Low temperature and low-pressure
D) Low temperature and high-pressure
70. Surface tension of Acetone _____ with increase in temperature.
A) decreases
B) remains constant
C) increases
D) first increases then decreases
71. The SI unit of coefficient of viscosity is
A) $\text{kg m}^2 \text{ s}$
B) kg m s^{-1}
C) $\text{kg m}^{-1} \text{ s}^{-1}$
D) $\text{kg m}^{-2} \text{ s}^{-1}$

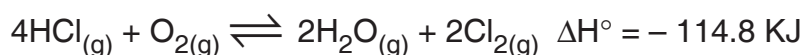
72. Potassium crystallises in a bcc structure. What is the coordination number of potassium in potassium metal ?

- A) 4 B) 8 C) 10 D) 6

73. Of the following, Liquid crystals have the properties

- A) The fluidity of a liquid and optical properties of a solid
B) Properties of supercooled liquids
C) Properties of amorphous solids
D) Properties of supercooled solids

74. Equilibrium is established in the reversible reaction,



Which one of the following changes will not increase the amount of Cl_2 present at equilibrium ?

- A) Removing $\text{H}_2\text{O}_{(g)}$
B) Increasing the total gas pressure in the system
C) Decreasing the volume of the container
D) Raising the temperature

75. The Van't Hoff equation assumes that the reaction enthalpy (ΔH) remains

- A) constant with temperature
B) constant with pressure
C) linearly dependent on concentration
D) proportional to square root of temperature

76. What is the solubility of AgCl in water if the solubility product, K_{sp} is 1.7×10^{-10} ?

- A) 1.7×10^{-10} B) 1.3×10^{-10} C) 1.3×10^{-5} D) 1.7×10^{-6}

77. When small amount of HCl is added to an equimolar mixture of acetic acid and sodium acetate pH value ?

- A) decreases abruptly B) increases
C) remains the same D) decreases

78. Calculate the entropy increase in the evaporation of 1 mol of water at 100°C. Heat of vaporisation of water at 100°C is 2000 J g⁻¹.
- A) 96.5 J K⁻¹ mol⁻¹ B) 414.4 J K⁻¹ mol⁻¹
 C) 5.4 J K⁻¹ mol⁻¹ D) 3.4 J K⁻¹ mol⁻¹
79. A spontaneous reaction is not possible if
- A) ΔH and TΔS are both negative B) ΔH and TΔS are both positive
 C) ΔH is positive and TΔS is negative D) ΔH is negative and TΔS is positive
80. For a reaction A → products, a graph of [A] versus time is found to be a straight line. Then the order of the reaction is
- A) first order B) second order C) third order D) zero order
81. According to collision theory, successful collision between reactant molecule must fulfil which of the following conditions ?
- A) the collision must be elastic
 B) the collision must have high energy
 C) the collision must occur at high pressure
 D) collision must have proper orientation and sufficient energy
82. The movement of the dispersion medium under the influence of applied potential is known as
- A) Electro osmosis B) Electrophoresis C) Peptization D) Diffusion
83. The effectiveness of PO₄³⁻, Cl⁻ and SO₄²⁻ ions for precipitating a positive sol decreases in the order
- A) PO₄³⁻ > Cl⁻ > SO₄²⁻ B) Cl⁻ > SO₄²⁻ > PO₄³⁻
 C) PO₄³⁻ > SO₄²⁻ > Cl⁻ D) SO₄²⁻ > PO₄³⁻ > Cl⁻
84. Standard solution of KCl is used in salt bridge in a galvanic cell because
- A) KCl forms good jelly with agar-agar
 B) transference number of K⁺ is greater than Cl⁻
 C) transference number of Cl⁻ is greater than K⁺
 D) transference number of K⁺ and Cl⁻ are nearly same

93. Which type of isomerism is exhibited by the coordination complex $[\text{Co}(\text{NH}_3)_6][\text{Cr}(\text{CN})_6]$?
- A) Ionisation isomerism B) Geometrical isomerism
C) Linkage isomerism D) Co-ordination isomerism
94. Which of the following co-ordination complex exhibits optical isomerism ?
- A) $[\text{Co}(\text{en})_3]^{3+}$ B) $[\text{Co}(\text{NH}_3)_6]^{3+}$
C) $[\text{Co}(\text{NH}_3)_5\text{Cl}]^{2+}$ D) $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]^+$
95. The selection rule for pure rotational Raman spectrum of a diatomic molecule is
- A) $\Delta J = 0$ B) $\Delta J = 0, \pm 1$
C) $\Delta J = 0, \pm 2$ D) $\Delta J = 0, \pm 1, \pm 2$
96. Which is a spin-forbidden electronic transition ?
- A) Singlet state \leftrightarrow Singlet state B) Singlet state \leftrightarrow Triplet state
C) Triplet state \leftrightarrow Triplet state D) None of these
97. The reason for using TMS as reference in NMR is
- A) It has 12 equivalent protons
B) It has low boiling point
C) It is chemically inert
D) All of these
98. Thin layer chromatography is based on the principle of
- A) adsorption B) partition
C) electrical mobility D) desorption
99. How many NMR signals will be obtained for ethylacetate molecule in its proton NMR spectrum ?
- A) 1 B) 2 C) 3 D) 4
100. The number of normal modes of vibration of CO_2 are
- A) 1 B) 2 C) 3 D) 4
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Space for Rough Work