

Drugs Inspector

D 0 2 26. 7 0 9

HIPS

Booklet Series

A

Register Number

[ ]

2009

PHARMACY / PHARMACEUTICAL SCIENCES

Time Allowed : 3 Hours ]

[ Maximum Marks : 300

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. This Booklet has a cover ( this page ) which should not be opened till the invigilator gives signal to open it at the commencement of the examination. As soon as the signal is received you should tear the right side of the booklet cover carefully to open the booklet. Then proceed to answer the questions.
2. This Question Booklet contains 200 questions.
3. Answer all questions.
4. All questions carry equal marks.
5. The Test Booklet is printed in four series e.g. [ A ] [ B ] [ C ] or [ D ] ( See Top left side of this page ). The candidate has to indicate in the space provided in the Answer Sheet the series of the booklet. For example, if the candidate gets [ A ] series booklet, he/she has to indicate in the side 2 of the Answer Sheet with Blue or Black Ink Ball point pen as follows :

[ A ] [ B ] [ C ] [ D ]

6. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
7. An Answer Sheet will be supplied to you separately by the Invigilator to mark the answers. You must write your Name, Register No. and other particulars on side 1 of the Answer Sheet provided, failing which your Answer Sheet will not be evaluated.
8. You will also encode your Register Number, Subject Code etc., with Blue or Black Ink Ball point pen in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, your Answer Sheet will not be evaluated.
9. Each question comprises four responses (A), (B), (C) and (D). You are to select ONLY ONE correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
10. In the Answer Sheet there are four brackets [ A ] [ B ] [ C ] and [ D ] against each question. To answer the questions you are to mark with Ball point pen ONLY ONE bracket of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. e.g. If for any item, (B) is the correct answer, you have to mark as follows :

[ A ] [ B ] [ C ] [ D ]

11. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the examination. After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.
12. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.
13. Do not tick-mark or mark the answers in the Question Booklet.

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1. Which of the following trademarked sustained release systems are based on encapsulated drug particles that will dissolve at various rates ?

- I. Sequels
- II. Spansules
- III. Extentabs.

Of these

- A) I only
- B) III only
- C) I and II
- D) I, II and III.

2. Compartmental models are often used to illustrate the various principles of pharmacokinetics. A compartment is best defined as

- A) any anatomic entity that is capable of absorbing drug
- B) a kinetically distinguishable pool of drug
- C) specific body organs in tissues that can be assayed for drug
- D) any body fluid such as blood in urine that may contain drug.

3. Dimethyl sulphoxide is commonly used as an excipient in transdermal patches as

- A) adhesive
- B) permeation enhancer of lipophilic drugs
- C) permeation enhancer of hydrophilic drugs
- D) release liner.

4. Ideal conditions for effective transdermal drug delivery would include molecular weight of ..... and pH of ..... for the saturated aqueous solution of the drug.

- A) < 500 Da, 1 - 5
- B) > 500 Da, 1 - 5
- C) < 500 Da, 5 - 9
- D) > 500 Da, 5 - 9.

5. All of the following drugs are believed to undergo significant first-pass hepatic biotransformation, except

- A) phenytoin
- B) lidocaine
- C) morphine
- D) nitroglycerine.

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6. Agglomeration in aerosols can be reduced by including
- A) anionic surfactants with HLB greater than 10
  - B) cationic surfactants with HLB less than 10
  - C) non-ionic surfactants with HLB greater than 10
  - D) non-ionic surfactants with HLB less than 10.
7. In a suspension, open network aggregate or floccule tends to
- A) settle quickly and cannot be easily redispersed
  - B) settle slowly and can be easily redispersed
  - C) settle quickly and can be easily redispersed
  - D) settle slowly and cannot be easily redispersed.
8. The particle size range of nano-particles is
- A) 1 nm — 1  $\mu$ m
  - B) 1 nm — 1000 nm
  - C) 1nm — 100 nm
  - D) 0.5  $\mu$ m — 1 nm.
9. Transdermal drug delivery systems contain drugs meant for
- A) local action
  - B) systemic action
  - C) both (A) and (B)
  - D) none of these.
10. Which one of the following per oral dosage forms is likely to exhibit the longest lag time ?
- A) Delayed release tablet
  - B) Elbdr
  - C) Enteric coated tablet
  - D) Sustained release capsule.
11. The equation that describes the process of 'Passive Transport' is
- A) Noyes-Whitney equation
  - B) Stokes law
  - C) Flick's law
  - D) Hofmeister rule.
12. The gelatin used in the manufacture of capsules is obtained from collagenous material by
- A) hydrolysis
  - B) decarboxylation
  - C) acetylation
  - D) conjugation.

13. Opalux is
- A) colour concentrate for fluidized bed coating
  - B) colour concentrate for film coating
  - C) complete colour concentrate for enteric coating
  - D) colour concentrate for sugar coating.
14. Creams are
- A) emulsions
  - B) gels
  - C) jellies
  - D) magmas.
15. Dissolution tests for tablets are done to measure indirectly
- A) hardness
  - B) bioavailability
  - C) solubility
  - D) friability.
16. Trichloromonofluoromethane is numerically designated as
- A) 12
  - B) 11
  - C) 114
  - D) 22.
17. Sealing in sugar coating is done
- A) to release drug in the intestine
  - B) to sustain release of the drug
  - C) to round the edges of tablet core
  - D) to prevent moisture penetration into tablet core.
18. .... is used to remove the Pyrogen during the preparation of water for injection.
- A) Membrane filter
  - B) Condenser
  - C) Still head
  - D) Filter head.
19. The type of official eye ointment base is
- A) hydrocarbon
  - B) absorption
  - C) water miscible
  - D) water soluble.

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20. Parenteral product with an osmotic pressure less than that of 0.9% w/v sodium chloride solution is referred to as
- A) isotonic solution                                  B) hypertonic solution  
C) hypotonic solution                                D) iso-osmotic solution.
21. Which of the following is not a super-disintegrant ?
- A) Microcrystalline cellulose                      B) Sodium starch glycolate  
C) Croscarmellose                                    D) Crosporidone.
22. Terminally sterilized products are
- A) those that are sensitive to heat and gamma irradiation  
B) those that can be sterilized after filling and sealing  
C) those products that can be autoclaved  
D) usually suspensions or powders.
23. Slugging is also called as
- A) dry granulation                                  B) wet granulation  
C) bulk production                                 D) direct compression.
24. Pinocytosis is known as
- A) vesicular transport                              B) engulfment of small solutes  
C) engulfment of larger particles                D) absorption phenomena.
25. List of the substances that are required to be used only under medical supervision and which are labelled accordingly is / are
- A) R    B) G  
C) P    D) C and C<sub>1</sub>.
26. Establishment(s) which has/have a qualified person engaged in compounding of drug is / are
- A) Drug store                                        B) Chemists and druggists  
C) Pharmacy                                         D) none of these.

27. Licence for wholesale of drugs specified in the schedule C and C<sub>1</sub> is issued in Form

- A) 20-A
- B) 20-B
- C) 21-B
- D) 22-A.

28. The left hand top corner of the label of schedule X bulk drugs contains symbol,

- A) R<sub>X</sub>
- B) RMP
- C) X
- D) XR<sub>X</sub>

29. In constitution of State Pharmacy Councils total number of Registered Pharmacists to be elected is

- A) five
- B) six
- C) seven
- D) four.

30. The Drugs and Cosmetics Rules were passed in the year of

- A) 1945
- B) 1947
- C) 1944
- D) 1946.

31. How many representatives are nominated by the Central Government to Drug Consultative Committee ?

- A) 1
- B) 2
- C) 3
- D) 4.

32. The sample taken by the Drug Inspector from the retail premises should be divided into:

- A) 4 parts
- B) 3 parts
- C) 2 parts
- D) 5 parts.

33. As per GMP, change rooms to the aseptic areas of sterile product manufacturing area should be clearly demarcated into the following rooms, except

- A) Black room
- B) Blue room
- C) Grey room
- D) White room.

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34. As per GMP, during tablet compression, in-process control should be done at regular intervals of
- A) not more than 45 minutes                      B) not more than one hour  
C) not more than 30 minutes                      D) every one hour.
35. Drug ( Price Control ) Order came into force in the year
- A) 1979    B) 1955  
C) 1960    D) 1987.
36. Equipment recommended for the manufacture of powders come under
- A) Schedule H    B) Schedule M  
C) Schedule N    D) Schedule X.
37. Magic remedies include
- A) Talismans    B) Mantras  
C) Kavachas    D) all of these.
38. Spurious drugs mean
- A) imitations    B) substitutes  
C) resembling other drugs                              D) all of these.
39. GMP for Ayurvedic, Siddha and Unani medicines are covered by
- A) Schedule U    B) Schedule T  
C) Schedule W    D) Schedule M.
40. Protoplasmic plant tissue culture method was introduced in 1960 by
- A) Cocking    B) Skoog & Miller  
C) Gamborg and Neabors                              D) Carlson.

41. The sugar concentration of molasses used in the production of industrial alcohol should be
- A) 10% to 18%                                        B) 4% to 8%
- C) 15% to 25%                                        D) 20% to 30%.
42. The fibrin clot produced when thrombin is mixed with
- A) fibrinogen    B) fibrin foam
- C) dried human serum                                D) citrate-saline.
43. Exotoxin producing bacteria are
- A) *Salmonella typhi*                                    B) *Vibrio cholerae*
- C) *Clostridium tetani*                                 D) *Pasteurella pestis*.
44. Following are the carbon sources used in the fermentative production of L-glutamic acid, except
- A) n-paraffin    B) acetic acid
- C) ethanol     D) propylene glycol.
45. Among the proteins present in horse serum, antitoxins ( diphtheria ) are largely associated with
- A) gamma globulins                                    B) beta globulins
- C) albumins    D) all of these.
46. Small bench fermentors are made up of ..... material.
- A) stainless steel                                        B) borosilicate glass
- C) plastic     D) all of these.
47. Bioreactor is the instrument used for growing
- A) bacterial cells                                        B) insect cells
- C) mammalian cells                                    D) both (B) and (C).





56. High concentration of several proteins is obtained from ..... serum.
- A) monkey
  - B) horse
  - C) rabbit
  - D) rat.
57. Which drug is used to prevent embolism in the lung and during myocardial infarction ?
- A) Granulocyte-macrophage colony-stimulating factor ( GM-CSF )
  - B) Alteplase
  - C) EPOGEN ( EPO )
  - D) Human growth hormone.
58. Which enzyme is used by the HIV to form DNA in the host cell ?
- A) Restrictive endonuclease
  - B) DNA-directed polymerase
  - C) Reverse transcriptase
  - D) Both (A) and (B).
59. Which type of cell does not contain double-stranded deoxyribonucleic acid ?
- A) Human cells
  - B) Bacteria cells
  - C) Human immunodeficiency virus ( HIV ) cells
  - D) Fungal cells.
60. Dextran is used as blood-plasma volume extenders because
- A) they are heat sterilized
  - B) they do not carry virus
  - C) both (A) and (B)
  - D) none of these.
61. The organism used for the production of Dextran is
- A) *Leuconostoc mesenteroids*
  - B) *Lactobacillus bulgarium*
  - C) *Clostridium botulinum*
  - D) *Granulobacter botulinum*.
62. Mechanism of citric acid fermentation is confirmed by
- A) theory of Emde
  - B) Krebs' cycle
  - C) theory of Ciusa and Brüll
  - D) Bernhauer's theory.

63. The first pharmaceutical product to be produced by mammalian cell culture is
- A) tPA  
B) tRNA  
C) tDNA  
D) tG<sub>H</sub>
64. India is the ..... country in the world to develop an indigenous Hepatitis-B vaccine.
- A) 2nd  
B) 3rd  
C) 4th  
D) 5th.
65. Extinction  $E =$
- A)  $\log \frac{I_0}{I_1}$   
B)  $\log T$   
C)  $I_1 / I_0$   
D)  $I_0 10^{-ct}$
66. The stationary phase in Thin-Layer Chromatography (TLC) is
- A) adsorbent  
B) liquid held between glass plate and adsorbent  
C) glass plate  
D) none of these.
67. The wave number is defined as
- A) number of waves per unit of length  
B) number of waves per unit of metre  
C) number of waves per cm  
D) number of waves per unit of width.
68. The quality assurance personnel responsibilities does not include
- A) maintaining copies of approved study plans  
B) preparation of SOP  
C) inspection of final reports to confirm methods and procedures  
D) issue of product development plan.

69. The constituents of Karl Fischer reagent are
- A)  $\text{SO}_3$ , solution of iodine, anhydrous pyridine, ethanol
  - B)  $\text{SO}_2$ , solution of iodine, anhydrous pyridine, acetone
  - C)  $\text{SO}_3$ , solution of iodine, anhydrous pyridine, anhydrous methanol
  - D)  $\text{SO}_2$ , solution of iodine, anhydrous pyridine, anhydrous methanol.
70. In electron capture detector, ..... may be used as a carrier gas for compounds of high electron affinity.
- A) Nitrogen
  - B) Argon
  - C) Hydrogen
  - D) Carbon dioxide.
71. Which of the following statements about ISO is incorrect ?
- A) ISO certifies organisations which apply for ISO 9001 compliance.
  - B) ISO 9000 is not a prescriptive standard for quality.
  - C) ISO 9000 is a process oriented rather than result oriented standard.
  - D) ISO 9000 does not provide industry specific performance requirements.
72. The composition of the Barium sulphate reagent used in the limit test for sulphates is
- A) Barium sulphate, Sulphate free alcohol and Ferrous sulphate
  - B) Barium chloride, alcohol and Potassium chloride
  - C) Barium sulphate, alcohol and Potassium chloride
  - D) Barium chloride, Sulphate free alcohol and Potassium sulphate.
73. Katharometers & Bolometers are different types of
- A) pumps
  - B) detectors
  - C) monochromators
  - D) recorders.



81. As per the GLP, full calibration of spectrophotometers should be done  
 A) once a day  
 B) once a month  
 C) every quarter  
 D) half-yearly.
82. The closeness of the results obtained by the procedure to the true value is  
 A) linearity  
 B) precision  
 C) accuracy  
 D) sensitivity.
83. Which of the following contains a chromophore ?  
 A) Ethylene  
 B) Ethane  
 C) Both (A) and (B)  
 D) None of these.
84. The presence of which of the following groups increases fluorescence intensity ?  
 A) Amino group  
 B) Nitro group  
 C) Both (A) and (B)  
 D) None of these.
85. The purple colour formed in the limit test for iron is due to  
 A) Ferric thioglycolate  
 B) Ferrous thioglycolate  
 C) Ferrous glycolate  
 D) Ferric glycolate.
86.  $R_f$  value ranges from  
 A) 0 to 1  
 B) 0 to 2  
 C) 2 to - 2  
 D) + 1 to - 1.
87. In the limit test for arsenic the granulated zinc and HCl help to  
 A) increase the sensitivity of the test  
 B) produce stable colour  
 C) provide an acid medium  
 D) reduce the arsenic or arsenious acid to arsine.
88. In the limit test for sulphates, the alcohol in the Barium sulphate reagent helps to.  
 A) increase the solubility  
 B) prevent ppt of impurities  
 C) clarify the solution  
 D) prevent super-saturation.

89. The volume of carrier gas required to elute one half of the compound from the column is expressed as
- A) Retention time  
B)  $R_f$  value  
C)  $R_x$  value  
D) Retention volume.
90. In IR spectrum, the functional group region is
- A)  $4000\text{ cm}^{-1}$  to  $900\text{ cm}^{-1}$   
B)  $4000\text{ cm}^{-1}$  to  $1400\text{ cm}^{-1}$   
C)  $1400\text{ cm}^{-1}$  to  $900\text{ cm}^{-1}$   
D)  $4000\text{ cm}^{-1}$  to  $660\text{ cm}^{-1}$ .
91. A sample is withdrawn or seized from drug store by a drug inspector and sealed. The payment of fair price of the sample
- A) is made to the drug store owner  
B) is not made  
C) is made to the drug store owner and in case of refusal a Form is filled up with a receipt  
D) the drug store owner must be insisted to give it free of cost.
92. Drugs Technical Advisory Board (DTAB) -Allopathy consists of 18 members whereas DTAB-Ayurvedic, Siddha and Unani drugs consists of
- A) 18 members  
B) 20 members  
C) 15 members  
D) none of these.
93. The list of disease for which advertisement banned or prohibited is finalised in consultation with
- A) Drugs Technical Advisory Board  
B) Drugs Testing Laboratory  
C) Central Drugs Laboratory  
D) None of these.
94. Which one of the following is not the wing of Drugs and Cosmetics Act ?
- A) Advisory wing  
B) Analytical wing  
C) Administrative wing  
D) Education and Pharmacy wing.

95. Gudakhu is a tobacco product used for rubbing against human teeth, contains tobacco powder, lime and molasses along with red mineral matter. Within the provision of D & C Act it is
- A) cosmetic  
B) food  
C) drug  
D) none of these.
96. Schedule M incorporating GMP ( Good Manufacturing Practices ) was introduced in
- A) 1987  
B) 1988  
C) 1989  
D) 1990.
97. In the Drugs ( Price Control ) Order, 1995 the first schedule consists of
- A) list of books  
B) list of bulk drugs  
C) list of formulations  
D) none of these.
98. The First Schedule of Drugs and Cosmetics Act, 1940 comprises
- A) the list of books of references for Ayurvedic, Siddha and Unani medicines  
B) list of Pharmacy books  
C) list of Homeopathic books  
D) none of these.
99. Batch Processing Records ( BPR ) should contain the following details, except
- A) Analytical control number  
B) Raw material manufacturers' detail  
C) Batch number  
D) Date of commencement of operation.
100. The Head Office of Drugs Technical Advisory Board is at
- A) New Delhi  
B) Kolkata  
C) Mumbai  
D) Chennai.



101. The antiarrhythmic drug quinidine is

- A) (+) stereoisomer of quinine
- B) (-) stereoisomer of quinine
- C) (+) racemic mixture of quinine
- D) none of these.

102. The IUPAC nomenclature of Piroxicam is

- A) 2H-1, 2-benzothiazine-3-carboxamide, 4 hydroxy 2-methyl-N-pyridinyl-, 1, 1-dioxide
- B) 2-naphthalene acetic acid, (+) 6 methoxy- $\alpha$ -methyl
- C) Benzene acetic acid ( $\pm$ )  $\alpha$ -methyl-4-(2-methyl propyl)
- D) Benzoic acid, 2-[(2, 6-dichloro-3-methyl phenyl) amino]

103. Prazepam differs in structure from Diazepam by

- A) N-methyl group
- B) N-propyl group
- C) N-cyclo propyl methyl group
- D) N-cyclo propyl group.

104. Some psychoactive phenothiazines listed below have the following side chains at position 10, which are given in 1 to 4. Match them correctly :

- |                     |   |
|---------------------|---|
| a) Chlorpromazine   | 1. 3-[4 methyl piperazine 1-yl] propyl                |
| b) Prochlorperazine | 2. 2-(1 methyl piperide 2-yl) ethyl                   |
| c) Thioridazine     | 3. 3-[4- (2 hydroxy ethyl )<br>piperazine 1-V] propyl |
| d) Perphenazine     | 4. Dimethyl aminopropyl.                              |

Codes :

- |    | a | b | c | d  |
|----|---|---|---|----|
| A) | 4 | 1 | 2 | 3  |
| B) | 1 | 2 | 1 | 3  |
| C) | 2 | 3 | 4 | 2  |
| D) | 3 | 4 | 3 | 1. |

105. From the given pairs of diuretics in which pair both the drugs do not require the presence of aldosterone to produce diuresis ?
- A) Mannitol and Spiranolactone
  - B) Spiranolactone and Triamterene
  - C) Triamterene and Amiloride
  - D) Spiranolactone and Amiloride.
106. The diuretic that is natriuretic, chloruretic, saluretic and antikaliuretic, is
- A) Spiranolactone
  - B) Furosemide
  - C) Ethacrynic acid
  - D) Acetazolamide.
107. Of the given pairs of antihistamines, the pair in which both are, 'dual-acting' antihistamines is
- A) Cetirizine and Cromolyn sodium
  - B) Azelastine and Cetirizine
  - C) Azelastine and Ketotifen
  - D) Ketotifen and Cromolyn sodium.
108. Diazoxide and Minoxidil can be described as
- A) Potassium channel openers
  - B) Potassium sparing diuretics
  - C) Calcium channel blockers
  - D) Sodium channel openers.
109. In the lidocaine series of local anaesthetics increasing the length of the alkylene chain up to three carbon units, ..... the local anaesthetic potency.
- A) increases
  - B) abolishes
  - C) reduces
  - D) does not alter.
110. Which of the following anti-histamines does not cross the blood brain barrier easily ?
- A) Diphenhydramine
  - B) Cyclizine hydrochloride
  - C) Chlorpheniramine maleate
  - D) Cetirizine.

111. The fluorine in Flurazepam is present in

- |                |                 |
|----------------|-----------------|
| A) 5' position | B) 3' position  |
| C) 2' position | D) 4' position. |

112. Ranitidine contains ..... heterocyclic ring.

- |              |              |
|--------------|--------------|
| A) Imidazole | B) Furan     |
| C) Thiazole  | D) Pyridine. |

113. Aspirin can be estimated by

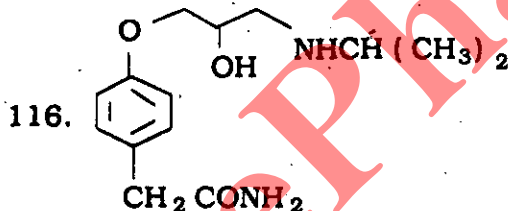
- |                          |                                |
|--------------------------|--------------------------------|
| A) non-aqueous titration | B) complexometry               |
| C) acid-base titration   | D) dead-stop end point method. |

114. Which of the following is anti-cholinergic drug ?

- |                |                   |
|----------------|-------------------|
| A) Carbachol   | B) Phenyl ephrine |
| C) Eucatropine | D) Procainamide.  |

115. Clonidine is used in the treatment of the following disorders, except

- |               |                                |
|---------------|--------------------------------|
| A) glaucoma   | B) hypertension                |
| C) arrhythmia | D) opiate withdrawal syndrome. |



- |               |               |
|---------------|---------------|
| A) Atenolol   | B) Metoprolol |
| C) Acebutolol | D) Timolol.   |

117. A central carbon atom not directly connected to any H<sub>2</sub> and is connected to a tertiary nitrogen through a 2 carbon unit on the other side with relatively small groups on the nitrogen is the pharmacophore of

- |  |                                  |
|--|----------------------------------|
| A) H <sub>1</sub> receptor antagonists | B) Narcotic analgesics           |
| C) Thiazide diuretics                  | D) Butyrophenone antipsychotics. |

118. Homatropine is a semisynthetic obtained or synthesised by reacting
- A) Tropine and Succinic acid                      B) Tropine and Malic acid  
 C) Tropine and Fumaric acid                      D) Tropine and Mandelic acid.
119. The 2' -chloro substituted analogue of oxazepam is
- A) Lorazepam    B) Diazepam  
 C) Temazepam    D) Prazepam.
120. Analgesic with N-Aryl anthranillic acid nucleus is
- A) Paracetamol    B) Meclofenamic acid  
 C) Phenyl butazone                                  D) Anti-pyrine.
121. Cholinergic receptor antagonist existing as enantiomer is
- A) Methacholine                                        B) Carbachol  
 C) Acetyl choline                                      D) Bethanechol.
122. Tripeleennamine is used as its
- A) Succinate    B) Maleate  
 C) Adipate    D) Citrate.
123. Which one of the following is not a non-barbiturate ?
- A) Paraldehyde                                        B) Carbromal  
 C) Nitrazepam                                         D) Thiopental Sodium.
124. Cyclomethycaine sulphate is used in
- A) anaesthetic in chemical burns  
 B) skin abrasions  
 C) dermatological lesions  
 D) all of these.
125. Reserpine is contraindicated in patients with a history of
- A) Epilepsy    B) Hypertension  
 C) Mental depression                                D) Schizophrenia.

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126. Digitalis overdose can be reversed by the administration of
- A) Phenytoin
  - B) Calcium
  - C) Fab fragments of Digoxin antibody
  - D) Sodium.
127. Drugs causing allergic reactions generally act as
- A) Antigen
  - B) Haptens
  - C) Antibodies
  - D) Mediators.
128. A potent tranquilizer which also exhibits strong hypotensive effect is
- A) Chlordiazepoxide
  - B) Meprobamate
  - C) Reserpine
  - D) Thorazine.
129. Salicylates are metabolised through
- A) hydroxylation
  - B) oxidation
  - C) conjugation with glucuronic acid
  - D) reduction.
130. Sodium valproate acts by
- A) blocking the metabolism of GABA
  - B) blocking the GABA receptor
  - C) blocking the conduction of impulses
  - D) blocking the release of GABA.
131. Atorvastatin should be taken at night after dinner because
- A) it induces sleep
  - B) synthesis of cholesterol is maximum during night
  - C) the patient would be affected by sunlight if taken during daytime
  - D) of better absorption.



138. Which one of the following is correctly matched ?

- A)  $\alpha$ -adrenergic antagonist — Lisinopril
- B)  $\beta$ -adrenergic antagonist — Propranolol
- C) Arterial vasodilators — Clonidine
- D) Calcium channel blocker — Diazoxide.

139. The movement of drug from a region of high drug concentration to a region of low-drug concentration is referred as

- A) facilitated diffusion
- B) pore transport
- C) active transport
- D) vesicular transport.

140. The biotransformation reaction involved in metabolism of methyl dopa is

- A) Acetylation
- B) Sulphation
- C) N-oxidation
- D) S-oxidation.

141. In asthma/COPD patients, which type of antihypertensive drug should be avoided ?

- A)  $\beta$ -adrenergic blockers
- B) Diuretics
- C) Calcium channel blockers
- D) ACE inhibitors.

142. Drugs having hydroxyl or carboxylic acid group can easily conjugate with

- A) sulphate
- B) glycine
- C) acetyl coenzyme-A
- D) glucuronic acid.

143. Colestipol is a/an ..... drug.

- A) HMG CoA reductase inhibitor
- B) activate PPAR- $\alpha$  receptors
- C) Bile acid binding agent
- D) heavy metal binding agent.

144. Rate limiting step in the biosynthesis of catecholamines is

- A) formation of dopamine
- B) formation of dopa
- C) transport of tyrosine
- D) formation of noradrenaline.





152. Gurmar comprises the

- A) stem and roots of *Gymnema sylvestre*
- B) leaves of *Gymnema sylvestre*
- C) powdered endosperm of the seeds of *Cyamopsis tetragonolobus*
- D) dried fruits of *Ammi majus*.

153. From callus, root growth can be enhanced by

- A) increasing Cytokinin amount than that of Auxin
- B) increasing Auxin amount than that of Cytokinin
- C) adding no hormone
- D) adding Gibberellins.

154. The adulterant of purple Foxglove leaves is

- A) *Synphytum officinale*
- B) *Cinchona officinale*
- C) *Convallaria majalis*
- D) *Urginea maritima*.

155. Narcotine contains which of the following moieties ?

- A) Phenanthrene
- B) Benzyl isoquinoline
- C) Quinoline
- D) Naphthalene.

156. The principal active constituents of which of the following drugs are dimeric glycosides ?

- A) Aloe
- B) Senna
- C) Digitalis
- D) Senna and Aloes.

157. Barbaloin and Sennoside-A can be categorised as ..... and ..... respectively.

- A) C-Glycoside, O-Glycoside
- B) O-Glycoside, C-Glycoside
- C) C-Glycoside, N-Glycoside
- D) O-Glycoside, N-Glycoside.

158. Adenine and kinetin are collectively called as.

- A) Auxins
- B) Gibberellins.
- C) Cytokinin
- D) Zeatin.

159. The ideal way to provide iron for a root culture would be to include ..... in the medium.

- A)  $\text{FeCl}_3$
- B)  $\text{Fe}_2(\text{SO}_4)_3$
- C) Fe EDTA
- D)  $\text{FeSO}_4$ .

160. Which type of glycoside is present in aloes ?

- A) O-Glycoside
- B) S-Glycoside
- C) N-Glycoside
- D) C-Glycoside.

161. Keller-Kiliani is a colour test specific for the identification of

- A) Sugar Moiety
- B) Glycoside Moiety
- C) Deoxy Sugar Moiety
- D) Both (A) and (B).

162. Which of the following drugs is a natural insecticide ?

- A) Pyrethrum
- B) Tulsi
- C) Tylopora
- D) Bael.

163. Absorbent cotton dissolves completely with uniform swelling in

- A) 60% w/w sulphuric acid
- B) 90% formic acid
- C) Ammoniacal copper oxide
- D) Ferrous ammonium sulphate.

164. Development of Novel hybrid plant can be achieved with

- A) organ culture
- B) cell-suspension culture
- C) callus culture
- D) protoplast culture.



172. Holy basil is the synonym for

- A) Methi
- B) Gymnema
- C) Tulsi
- D) Digitalis.

173. A placement for storage of products is

- A) private warehouse
- B) public warehouse
- C) bonded warehouse
- D) all of these.

174. Which of the following levels of material cautions against stock-out ?

- A) Reordering level
- B) Minimum level
- C) Maximum level
- D) Average stock level.

175. Selection of site of a drug store depends upon

- A) availability of finance
- B) existence of hospitals
- C) safety
- D) all of these.

176. Which of the following is/are objective(s) of purchasing ?

- A) Purchase of right quality
- B) Purchase of right quantity
- C) Purchase from right source
- D) All of these.

177. .... can be considered as primary sources of drug information.

- A) Pharmacopoeias
- B) Journals ( drug based )
- C) Package inserts
- D) Formularies.

178. Indapamide is taken preferably in the morning because

- A) exposure to sunlight helps conversion to active metabolite
- B) to minimize the effect of increased frequency of urination during night
- C) cholesterol synthesis is least during daytime
- D) cholesterol synthesis is maximum during daytime.

**HIPS**

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179. Long term storage of which one of the following vaccines demands storage at  $-20^{\circ}\text{C}$  ?

- A) DPT
- B) DT
- C) Oral polio vaccine
- D) TT.

180. In immunization parlance, VVM refers to

- A) Vulnerable Vaccine Method
- B) Vulnerable Vaccine Mode
- C) Vaccine Vial Monitor
- D) Vital Vaccine Method.

181. ICH means

- A) International Conference on Harmonisation
- B) International Committee on Harmonisation
- C) International Council on Harmonisation
- D) none of these.

182. The dose related adverse reaction is called as

- A) Type A
- B) Type B
- C) Type C
- D) Type D.

183. .... is available on internet through the National Library of Medicine ( NLM ) home page at [www.nlm.nih.gov](http://www.nlm.nih.gov).

- A) BIOSIS
- B) EMBASE
- C) MEDLINE
- D) Science Citation Index.

184. In ABC analysis C denotes

- A) average usage value items
- B) low usage value items
- C) costly and valuable items
- D) fast moving items.

185. The drugs that show antagonistic effects in nature whereby the sensitivity of the tissues to one drug is altered by another drug, are

- A) Trimethoprin and Sulphonamide
- B) Acetylcholine and Noradrenaline
- C) Digitalis glycosides and Diuretics
- D) Warfarin and Phenobarbital.

186. The term used to describe abnormal drug response is

- A) Hypersensitivity
- B) Idiosyncrasy
- C) Anaphylaxis
- D) Teratogenicity.

187. Hospital pharmacy deals with

- A) supply of ancillary products
- B) storage of biological products
- C) purchase of inventory drugs
- D) both (A) and (B).

188. Drug causing direct liver damage is

- A) Isoniazid
- B) Indomethacin
- C) Phenytoin
- D) Aspirin.

189. Milk and antacids reduce absorption of tetracyclines by forming

- A) chelation
- B) complexes
- C) protein binder
- D) insoluble complexes.

**HIPS**

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190. Which one of the following statements is matched correctly ?

- A) Drug abuse — repeated consumption of a drug
- B) Drug misuse — use of drugs for the conditions for which they are unsuited
- C) Drug addiction — decreased response to pharmacological drugs
- D) Drug tolerance — periodic or chronic intoxication produced by repeated consumption.

191. Medication errors include

- A) dispensing errors and medication
- B) patient compliance
- C) exact prescription
- D) none of these.

192. Coffee, tea and fruit juices antagonise the efficacy of ..... antipsychotic drugs.

- A) Thioxantins
- B) Butyrophenones
- C) Phenothiazines
- D) Sulpiride.

193. The principles of ICH guideline for GCP have their origin in

- A) Declaration of Canada
- B) Declaration of Helsinki
- C) Declaration of Austria
- D) Declaration of Australia.

194. Phase-I clinical trials are carried out

- I. to determine the maximum tolerated dose in humans
- II. to determine the pharmacokinetics and pharmacodynamics activity
- III. in healthy adult males
- IV. in healthy adult females.

Of these

- A) I and II
- B) II, III and IV
- C) III and IV
- D) I, II and III.

195. A child who swallows an overdose of fluoride containing multivitamin product should be treated with

- A) acetyl cysteine
- B) dilute  $\text{Ca}(\text{OH})_2$  solution
- C) docusate sodium
- D) atropine sulphate.

196. Cholestyramine will probably interfere with the GI absorption of

- I. Chlorothiazide
- II. Warfarin
- III. Phenobarbital.

Of these

- A) I only
- B) II and III
- C) I, II and III
- D) no interference.

197. Drug information sources include all, except

- A) journals
- B) drugdex
- C) dailies
- D) online pharmacy journals.

198. In inventory control the turnover rate is calculated by which of the following formulae ?

- A) Annual purchase + Annual inventory
- B) Annual purchase  $\times$  Annual inventory
- C) Annual inventory + Annual purchase
- D) Annual purchase + Annual inventory.



**HIPS**

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199. Aluminium hydroxide gel is combined with Magnesium hydroxide gel in antacid preparations to

- A) ensure synergism
- B) counter the constipating effect of magnesium hydroxide
- C) balance the purgative effect of magnesium hydroxide
- D) improve the absorption of magnesium hydroxide.

200. Match **List I** correctly with **List II** and select your answer using the codes given below :

**List I**

- a) Salbutamol
- b) Tolazoline
- c) Propranolol
- d) Isoprenaline

**List II**

- 1. Enhance GI-mobility
- 2. Stimulate heart rate
- 3. Bronchodilator
- 4. Suppress ventricular tachycardia.

Codes :

	a	b	c	d
A)	3	1	4	2
B)	2	1	4	3
C)	4	1	2	3
D)	3	2	4	1.