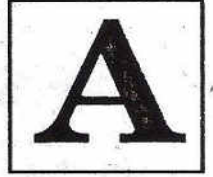


**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO**  
**TEST BOOKLET SERIES**

**TEST BOOKLET****D.I.-2016**

Time Allowed : 2 Hours]

[Maximum Marks : 100

*All questions carry equal marks.*

**INSTRUCTIONS**

1. Immediately after the commencement of the examination, you should check that test booklet does not have any unprinted or torn or missing pages or items, etc. If so, get it replaced by a complete test booklet.
2. **Encode clearly the test booklet series A, B, C or D as the case may be in the appropriate place in the answer-sheet.**
3. Write your Roll Number only in the box provided alongside.   
Do not write anything else on the Test Booklet.
4. This Test Booklet contains 100 items (questions). Each item comprises four responses (answers). Choose only one response for each item which you consider the best.
5. After the candidate has read each item in the Test Booklet and decided which of the given responses is correct or the best, he has to mark the circle containing the letter of the selected response by blackening it completely with Black or Blue ball pen. In the following example, response "C" is so marked :  

(A)    (B)    ●    (D)
6. Do the encoding carefully as given in the illustrations. While encoding your particulars or marking the answers on answer sheet, you should blacken the circle corresponding to the choice in full and no part of the circle should be left unfilled. After the response has been marked in the ANSWER SHEET, no erasing/fluid is allowed.
7. You have to mark all your responses ONLY on the ANSWER SHEET separately given according to 'INSTRUCTIONS FOR CANDIDATES' already supplied to you. *Responses marked on the Test Booklet or in any paper other than the answer sheet shall not be examined.*
8. All items carry equal marks. Attempt all items. Your total marks will depend only on the number of correct responses marked by you in the Answer Sheet. There will be no negative marking.
9. Before you proceed to mark responses in the Answer Sheet fill in the particulars in the front portion of the Answer Sheet as per the instructions sent to you.
10. If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct.
11. After you have completed the test, hand over the Answer Sheet only, to the Invigilator.

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO**

Time Allowed : 2 Hours]

[Maximum Marks : 100

1. In the Drugs and Cosmetics Act and Rules, the Schedule relating to GLP is :  
(A) Schedule M (B) Schedule L1  
(C) Schedule M1 (D) Schedule P
2. Which separation technique is suitable for simultaneous analysis of standards and samples in a single run ?  
(A) HPLC (B) GC  
(C) TLC (D) UV
3. The following plant bark is used as cardiotoxic :  
(A) Withania somifera (B) Terminalia bellerica  
(C) Terminalia arjuna (D) Zingiber
4. The typical dry heat condition employed in the sterilization of pharmaceutical products :  
(A) 250°C for 90 min (B) 180°C for 30 min  
(C) 100°C for 60 min (D) 200°C for 45 min

5. Match the reagent with major composition and select correct answer from the codes given below :

(p) Mayer

(i) Potassium bismuth iodide

(q) Dragendorff's

(ii) Iodine in potassium iodide

(r) Wagner reagent

(iii) Picric acid

(s) Hager reagent

(iv) Potassium mercuric iodide

**Codes :**

(p) (q) (r) (s)

(A) (iv) (i) (ii) (iii)

(B) (iii) (i) (ii) (iv)

(C) (ii) (i) (iv) (iii)

(D) (i) (iv) (ii) (iii)

6. For USP-content uniformity, out of 10 tablets, 9 tablets may contain X % and not more than Y% of labeled drug content :

(A) X = 75%, Y = 125%

(B) X = 85%, Y = 115%

(C) X = 65%, Y = 135%

(D) X = 95%, Y = 105%

7. Density can be measured by the following apparatus :
- (A) Soxhlet extraction (B) Karl Fischer Titrator  
(C) Pycnometer (D) Distillation
8. The most commonly used carrier gas in gas chromatography :
- (A) Hydrogen (B) Argon  
(C) Helium (D) Neon
9. Moisture content of pharmaceuticals is determined by :
- (A) RP-HPLC (B) GC-FID  
(C) Karl Fischer method (D) None of these
10. All the following are AIDS tests, *except* :
- (A) ELISA (B) Fuji  
(C) RIA (D) Western's test

11. In the Drugs and Cosmetics Act and Rules, the Schedule relating to GMP for non-allopathic (AYUS) is :
- (A) Schedule M (B) Schedule T  
(C) Schedule S (D) Schedule M1
12. 0.9% of NaCl is.....with blood plasma.
- (A) Hypertonic (B) Hypotonic  
(C) Isotonic (D) None of these
13. The following carbohydrate is commonly known as invert sugar :
- (A) Glucose (B) Fructose  
(C) Lactose (D) Sucrose
14. USP stands for :
- (A) United States Pharmacopoeia  
(B) United States National Formulary  
(C) United States Pharmacopeia  
(D) United States Nations Pharmacopoeia

15. Government Analyst for Ayurvedic, Sidda or Unani drug appointed by Central or State Government under :

(A) Section 20

(B) Section 33F

(C) Section 33G

(D) Section 21

16. Vitamin A is :

(A) Polyisoprenoid compound with  $\beta$ -ionone ring

(B) 6-Hydroxycholesterol

(C) Benzoquinone derivative

(D) Coenzyme Q10

17. What is the first eluted compound in normal, reversed phase chromatography respectively ?

(A) Polar, Non-polar

(B) Polar, Semi-polar

(C) Non-polar, Polar

(D) Semi-polar, Non-polar

18. 1 gram is equal to how many grains ?
- (A) 30 (B) 15  
(C) 5 (D) 60
19. One tablespoonful is equal to :
- (A) 7.5 ml (B) 10 ml  
(C) 15 ml (D) 30 ml
20. HPLC peak fronting is mainly caused due to :
- (A) Immiscible mobile phase (B) Column heating  
(C) Sample overloading (D) All of these
21. All the following are tests for amino acids, *except* :
- (A) Biuret test (B) Millions reagent test  
(C) Xanthoprotic test (D) Molish test
22. In GC, derivatization of compounds is mainly for :
- (A) Remove impurities  
(B) Enable compound interaction with carrier gas  
(C) Improve thermal stability of compounds  
(D) All the above

23. If the adult dose of a drug is 100 mg, what will be the dose for an infant of 12 month's old ?

(A) 8 mg

(B) 8.33 mg

(C) 5 mg

(D) 7.69 mg

24. 'DS' means in a prescription :

(A) Repeat

(B) Twice daily

(C) Double strength

(D) Daily

25. Match the instrument with uses and select correct answer from the codes given below :

(p) Rotary cutter mill

(i) Ointment slurries

(q) Ball mill

(ii) Recycling of paper waste and plastic

(r) Roller mill

(iii) Ophthalmics, parental

(s) Hammer mill

(iv) Extraction of fixed oils

**Codes :**

(p) (q) (r) (s)

(A) (i) (iii) (iv) (ii)

(B) (i) (ii) (iii) (iv)

(C) (ii) (iii) (iv) (i)

(D) (i) (iv) (iii) (ii)



26. One kilogram is equal to :

(A) 3.3 pounds

(B) 4.4 pounds

(C) 2.2 pounds

(D) 3.0 pounds

27. In diet of a diabetic patient, the recommended carbohydrate intake preferably :

(A) Monosaccharides

(B) Disaccharides

(C) Polysaccharides

(D) All of these

28. Under anaerobic conditions the glycolysis of one mole of glucose yields ..... moles of ATP.

(A) 3

(B) 2

(C) 6

(D) 30

29. Calcitriol is :

(A) 1, 25-diOH cholecalciferol

(B) 25-OH-cholecalciferol

(C) 24, 25-diOH cholecalciferol

(D) 1-OH-cholecalciferol

30. Biotin is involved in the following reactions :
- (A) Deamination (B) Decarboxylation  
(C) Carboxylation (D) Hydroxylation
31. The sites for gluconeogenesis are :
- (A) Skin and Pancreas  
(B) Brain and Lung  
(C) Kidney and Liver  
(D) Lens of eye and Intestine
32. The following is a human dietary essential fatty acid :
- (A) Stearic acid (B) Oleic acid  
(C) Linoleic acid (D) Palmitic acid
33. Insulin action on lipid metabolism :
- (A) Decreases lipolysis and increases triglyceride synthesis  
(B) Increases lipolysis and decreases triglyceride synthesis  
(C) Increases lipolysis and increases triglyceride synthesis  
(D) Decreases lipolysis and decreases triglyceride synthesis

34. In a prescription 'PC' means :

- (A) After meals (B) Powdered compound  
(C) Before sleep (D) Daily

35. 'AC' in a prescription means :

- (A) Before rising (B) Add water  
(C) Shake well (D) Before meals

36. Match the following trace elements with their uses and select correct answer from the codes given below :

- (p) Zinc (i) Biosynthesis of T<sub>3</sub> and T<sub>4</sub>  
(q) Iodine (ii) Decreases total cholesterol  
(r) Ferric ammonium citrate (iii) Treating iron deficiency  
(s) Chromium (iv) Bone development

**Codes :**

- (p) (q) (r) (s)  
(A) (i) (iv) (iii) (ii)  
(B) (iv) (i) (iii) (ii)  
(C) (ii) (i) (iii) (iv)  
(D) (iv) (iii) (ii) (i)

37. Match the following dental products with suitable uses and select correct answer from the codes given below :

- |                              |   |
|------------------------------|---|
| (p) Sodium fluoride          | (i) Astringent and dentin desensitizer  |
| (q) Zinc Chloride            | (ii) Preservative for dental caries     |
| (r) Disodium Edetate         | (iii) Treatment for lead poisoning      |
| (s) Calcium disodium Edetate | (iv) Chelating agent in metal poisoning |

**Codes :**

- |     | (p)  | (q)   | (r)   | (s)   |
|-----|------|-------|-------|-------|
| (A) | (iv) | (iii) | (ii)  | (i)   |
| (B) | (ii) | (i)   | (iv)  | (iii) |
| (C) | (ii) | (i)   | (iii) | (iv)  |
| (D) | (i)  | (ii)  | (iii) | (iv)  |

38. All the following are essential amino acids, which cannot be made by the human body, *except* :

- |             |                   |
|-------------|-------------------|
| (A) Valine  | (B) Aspartic acid |
| (C) Leucine | (D) Isoleucine    |

39. Match the reagents useful for the following limit tests and select correct answer from the codes given below :

(p) Chlorides

(i) Hydrogen sulphide solution

(q) Sulphates

(ii) Thioglycollic acid

(r) Iron

(iii) Barium chloride

(s) Heavy metals

(iv) Silver nitrate

**Codes :**

(p) (q) (r) (s)

(A) (i) (iv) (ii) (iii)

(B) (iv) (ii) (iii) (i)

(C) (iv) (iii) (ii) (i)

(D) (i) (ii) (iii) (iv)

40. Which neuromuscular blocking agent is contraindicated in patients with glaucoma ?

(A) Gallamine

(B) Pancuronium

(C) Succinylcholine

(D) Tubocurarin

41. Which of the agonist would be used for cardiogenic arrest, heart block ?

(A)  $\alpha$ 1-agonist

(B)  $\alpha$ 2-agonist

(C)  $\beta$ 1-agonist

(D)  $\beta$ 2-agonist

42. The International Pharmacopoeia is published by :

- (A) ICH (B) EMEA  
(C) WHO (D) UNESCO

43. Match the important side effects of the following drugs and select correct answer from the codes given below :

- |                    |                    |
|--------------------|--------------------|
| (p) ACE inhibitors | (i) Hepatotoxicity |
| (q) Antipsychotics | (ii) Sedation      |
| (r) Sitagliptin    | (iii) Dry cough    |
| (s) Anti TB        | (iv) Coldness      |

**Codes :**

- |           |       |      |       |
|-----------|-------|------|-------|
| (p)       | (q)   | (r)  | (s)   |
| (A) (i)   | (iv)  | (ii) | (iii) |
| (B) (iii) | (ii)  | (iv) | (i)   |
| (C) (ii)  | (iii) | (iv) | (i)   |
| (D) (iii) | (ii)  | (i)  | (iv)  |

44. What is the reason for peak tailing in HPLC ?

- (A) Strong interaction of the analyte with mobile phase  
(B) Strong interaction of the analyte with stationary phase  
(C) No interaction of the analyte with mobile phase  
(D) No interaction of the analyte with stationary phase

45. Which of the below detector works on Wheatstone bridge principle ?
- (A) FID (B) UV  
(C) TCD (D) Photomultiplier
46. What is the typical vacuum requirement to increase the mean-free path for reproducible fragmentation of molecules in Mass Spectrometry ?
- (A)  $10^{-4} - 10^{-5}$  torr  
(B)  $10^{-2} - 10^{-3}$  torr  
(C)  $10^{-1} - 10^{-2}$  torr  
(D)  $10^{-8} - 10^{-12}$  torr
47. How many drops constitute one tablespoonful ?
- (A) 125 (B) 250  
(C) 80 (D) 500
48. One gallon is equal to :
- (A) 5 liters (B) 3.78 liters  
(C) 5.5 liters (D) 4.97 liters

49. The Narcotic Drugs and Psychotropic Substances (NDPS) Act, came into effect on :

- (A) 14.11.1985 (B) 16.9.1985  
(C) 15.8.1986 (D) 26.9.1986

50. What does 'BID' in a prescription means ?

- (A) Twice daily (B) After meals  
(C) Five times daily (D) Four times daily

51. Match the following dryers with uses and select correct answer from the codes given below :

- (p) Tray dryer (q) Spray dryer  
(r) Fluidized bed dryer (s) Vacuum dryer
- (i) Larger quantity of thermolabile, hygroscopic material to be dried  
(ii) Sticky, plastic, crude drugs, tablet granules etc  
(iii) Heat sensitive, hygroscopic, drugs contains toxic solvents  
(iv) Drying of granules in the production of tablets.

**Codes :**

- (p) (q) (r) (s)  
(A) (i) (iv) (iii) (ii)  
(B) (i) (ii) (iii) (iv)  
(C) (i) (iii) (iv) (ii)  
(D) (ii) (i) (iv) (iii)



52. In Pharmacy, Expired drugs should be stored separately in a locked shelf. Bearing the following label :
- (A) "Expired Goods-Not For Sale"
  - (B) "Expired Drugs"
  - (C) "OLD drugs-Not For Sale"
  - (D) "OLD drugs"
53. IPR India Act may be called the :
- (A) WHO Act
  - (B) Patents Act, 1970
  - (C) IPR Act, 1970
  - (D) Patents Act, 1940
54. Under Indian Patent Act, term of patent from the date of filing is :
- (A) 30 years
  - (B) 60 years
  - (C) 20 years
  - (D) 10 years
55. The ratio of retention of two adjacent peaks is known as :
- (A) Capacity factor
  - (B) Separation factor
  - (C) Retention factor
  - (D) HETP

56. The more non-polar bonds (Ex : C – C, C = C) will give rise to the strongest bonds in which Spectrum ?

(A) VIS

(B) UV

(C) Raman

(D) IR

57. Match the following sodium salts with pharmaceutical uses and select correct answer from the codes given below :

(p) Sodium thiosulphate

(i) Antidote of cyanide

(q) Sodium benzoate

(ii) Powerful reducing agent

(r) Sodium bromide

(iii) Fungistatic and diagnostic agent

(s) Sodium metabisulphite

(iv) As a sedative

**Codes :**

(p) (q) (r) (s)

(A) (ii) (i) (iv) (iii)

(B) (i) (iii) (ii) (iv)

(C) (i) (iv) (iii) (ii)

(D) (i) (iii) (iv) (ii)

58. SSRI :

(A) Phenytoin

(B) Sertraline

(C) Serotonin

(D) Phenobarbital

59. Anticancer drug belongs to inorganic metal complex :

(A) Dacarbazine

(B) Methotrexate

(C) Cisplatin

(D) Vincristine

60. The drug used for malaria chemoprophylaxis and treatment :

(A) Quinidine

(B) Quinine

(C) Chloroquine

(D) Sulfonamides

61. Tetracycline hydrochloride is never advised to be taken with milk, because

Tetracycline is inactivated by.....present in the milk.

(A) Magnesium

(B) Potassium

(C) Calcium

(D) Iron

62. NSAID :

(A) Ramipril

(B) Telmisartan

(C) Celecoxib

(D) Diazepam

63. A sample of paracetamol tablets claim to have 500 mg of paracetamol. But after analysis by Govt. analyst, it was found to contain 200 mg. As per Drugs and Cosmetics Act, this product would be categorized as :

(A) Adulterated drug

(B) Misbranded drug

(C) Spurious drug

(D) Unethical drug

64. An inorganic ion which is prophylactically used in bipolar depression is :

(A) Chromium

(B) Lithium

(C) Valproate

(D) Valium

65. Which of the following ACE inhibitors is *not* a prodrug ?

(A) Benzepril

(B) Captopril

(C) Quinapril

(D) Ramipril

66. Sulfonamides :

(A) Antibiotics

(B) Bacteriostatics

(C) Bactericidal

(D) Antiviral

67. The following ayurvedic plant leaves and roots used for hair growth tonic :

(A) Aloe vera

(B) Saraca indica

(C) Curcuma longa

(D) Eclipta alba

68. Which water is used for hand washing in a change room of manufacturing unit ?

(A) Soap water

(B) Distilled water

(C) Deionized water

(D) Potable water

69. The following Schedules include shelf life of drugs ?

(A) Schedule F

(B) Schedule M

(C) Schedule G

(D) Schedule P

70. IR absorption of ester carbonyl group :

(A)  $3590 \text{ cm}^{-1}$

(B)  $1700 \text{ cm}^{-1}$

(C)  $1735 \text{ cm}^{-1}$

(D)  $3030 \text{ cm}^{-1}$

71. IR absorption of hydroxyl group of alcohol :

(A)  $3590 \text{ cm}^{-1}$

(B)  $1700 \text{ cm}^{-1}$

(C)  $2500 \text{ cm}^{-1}$

(D)  $1200 \text{ cm}^{-1}$

72. Acetonitrile UV cut-off wavelength :

(A) 215 nm

(B) 190 nm

(C) 210 nm

(D) 240 nm

73. Ionizing agent in MALDI :

(A) Electrons

(B) Laser beam

(C) High temperature

(D) Reagent gaseous ions

74. No. of protons present in TMS is :

(A) 10

(B) 4

(C) 12

(D) 9

75. The most intense peak in mass spectrum is known as :

(A)  $M + 1$  Peak

(B)  $M + 2$  Peak

(C) Base Peak

(D) Molecular ion peak

76. Major pharmacological action of Ephedrine :

(A) Kidney failure

(B) Anti-inflammatory

(C) Heart failure

(D) Bronchial asthma



77. The concentration of lead in a water sample is reported as 5 ppm. Express the concentration in percentage :

(A) 0.00005%

(B) 0.005%

(C) 0.05%

(D) 0.0005%

78. In gas chromatography which detector is most sensitive to halogenated compounds :

(A) TCD

(B) FID

(C) ECD

(D) NPD

79. The speed regulating device of the dissolution apparatus should be capable of maintaining the speed within the..... of limits (USP) of selected speed.

(A)  $\pm 10\%$

(B)  $\pm 3\%$

(C)  $\pm 4\%$

(D)  $\pm 5\%$

80. Which of the following mass analyzers have a wide mass range and can be very accurate in their mass measurements ?

(A) Time-of-flight

(B) Ion trap

(C) Quadrupole

(D) Both (A) and (C)

81. Who was the first European to draw attention to the history of the Western Himalayas ?

(A) Francois Bernier

(B) Thomas Coryat

(C) Alexander Cunningham

(D) Vigne

82. What was the title of Thakurs of the families of Tibetan origin who held Lahul as Jagir ?

(A) Po

(B) Jo

(C) Tso

(D) Ko

83. When was the capital of Chamba princely state shifted from Brahmapura to Chamba ?

(A) 8th Century

(B) 9th Century

(C) 10th Century

(D) 11th Century

84. In which district of H.P. is *Dera Sidh Baba Rudru* ?

(A) Hamirpur

(B) Kangra

(C) Una

(D) Bilaspur

85. Which mountain pass joins Kinnaur and Tibet ?

(A) Shipki

(B) Hamtah

(C) Jalsu

(D) Dulchi

86. In which district of H.P. is Mantilai lake ?

(A) Kinnaur

(B) Chamba

(C) Kullu

(D) Shimla

87. In which District of H.P. is Lipa Asrang sanctuary ?

(A) Chamba

(B) Sirmaur

(C) Una

(D) Kinnaur

88. In which river basin is Gaj hydro-power project ?

(A) Yamuna

(B) Beas

(C) Ravi

(D) Satluj

89. Which princely state was the epicentre of '*Bhai Do Na Pai Do*' movement ?

(A) Kehlur

(B) Bushahr

(C) Sirmaur

(D) Mandi

90. According to 2015-16 *Economic Survey* how many services have been covered under Service Guarantee Act in H.P. ?

(A) 76

(B) 86

(C) 96

(D) 106

91. When was 'Make in India' campaign launched ?

(A) September 2014

(B) October 2014

(C) September 2015

(D) None of the above

92. In which district of Kerala is Puttingal Devi temple ?

(A) Kottayam

(B) Kannaur

(C) Kollam

(D) None of these

93. With which of the following is Deepa Karmakar associated ?
- (A) Boxing (B) Wrestling  
(C) Gymnastics (D) Hockey
94. To which political party does Mehbooba Mufti, the first woman CM of J and K, belong ?
- (A) BJD (B) RJD  
(C) JDU (D) PDP
95. On the bank of which river is Ujjain ?
- (A) Saryu (B) Kosi  
(C) Kshipra (D) Chambal
96. Who was declared the Man of the Series in the ICC World Twenty 20 Series held in 2016 ?
- (A) Marlon Samuels (B) Virat Kohli  
(C) Ross Taylor (D) A B de-Villiers

97. Support of approximately how many delegates is needed to get Democratic Party nomination in the US Presidential Elections 2016 ?
- (A) 2383 (B) 3238  
(C) 3467 (D) 4763
98. Which day is observed as Tiananmen Square Day ?
- (A) January 16 (B) February 21  
(C) May 01 (D) June 02
99. Which muslim boy was arrested in the United States for possessing a clock which looked like a bomb ?
- (A) Muhammad Afzal (B) Shabir Qureshi  
(C) Ahmed Mohamed (D) Hamid Mohamed
100. Which country in Central America has No coastline on the north Pacific Ocean ?
- (A) Honduras (B) Nicaragua  
(C) Belize (D) Guatamala