

NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR

Recruitment for the post of Pharmacist

[Ref – Recruitment Notice No./NITRR/R-1/Advt./2023/161 dated 13.07.2023]

Time Allowed: 3 hours

Maximum Marks: 100

Name of the Candidate: _____ App. No. _____

Serial Number of the Response Evaluation Sheet _____

Signature of Candidate

Signature of Invigilator

INSTRUCTIONS TO THE CANDIDATES:

1. This booklet consists of 11 pages and 100 questions. Please check that this Question Booklet does not have any missing or torn pages or items, if so, get it replaced by another Question Booklet.
2. You have to mark all your responses ONLY on the separate Response Sheet provided. It should not be folded or mutilated. No additional Response Sheet shall be provided.
3. Use only Black Ball point pen for filling all particulars of Question Booklet, Response Sheet as well as **darkening the circle** of the Response in the Response Sheet.
4. This Question Booklet **contains 100 Multiple Choice Questions**, and each question is followed by four alternative answer options for examples A, B, C and D out of **which only one most appropriate option is** to be chosen. You need to darken the most appropriate correct circle of the Response Sheet by black ball point pen.
5. For each question, darken only one circle on the Response Evaluation Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as invalid. **Cutting/ Alterations/ Corrections** are not permitted. Answers once darkened cannot be changed in the Response sheet. If you do not wish to attempt a question, leave all the circles in corresponding row blank and in such condition zero marks will be awarded for that question.
6. Every correct answer will be awarded **1** mark and **-0.25** will be deducted for each wrong answer. **No marks for non-attempted/invalid/cutting/alteration responses would be assigned.**
7. Use of **Electronic Gadgets**, Pager, Mobile Phone, Scientific Calculator etc. are strictly prohibited. Use of Unfair Means will lead to the cancellation of candidature. Do not carry any loose paper.
8. Blank spaces and blank pages at the end of this Booklet can be used for Rough Work.
9. Strictly adhere to disciplines during the course of examination and you are not permitted to leave the Examination Hall until the end of the test.
10. Return the Question Booklet and Response Sheet to the Invigilator after completion of examination, else your candidature treated as cancelled.

1. The 'Mukhyamantri Chhattisgarhi Parab Samman Nidhi Yojana' was launched on which date?
 - A. April 2023
 - B. June 2023
 - C. May 2022
 - D. September 2022
2. Which of the following is a technique of supervision?
 - A. Perceptions
 - B. Reassurance
 - C. Emotions
 - D. Values
3. $(30\% \text{ of } 6500) \div 26 \div 25$
 - A. 4
 - B. 8
 - C. 2
 - D. 3
4. Two classes X and Y have students 32 and 30. The average of X is 45 and Y is 50. Find the average of both classes.
 - A. 54.32
 - B. 61.23
 - C. 47.42
 - D. 40.25
5. Ratio of volumes of 3 containers is 3:4:5. All the three containers are full of a mixture of milk and water. Ratio of milk and water is 4:1, 3:1 and 3:2 in the three containers respectively. If the liquid of all the three containers is poured in the 4th container, then find the ratio of milk and water.
 - A. 1:2
 - B. 2:3
 - C. 7:3
 - D. 5:4
6. If in a certain code language 'NAME' is written as 'OYPA', then how will 'TEAM' be coded in that language?
 - A. UCDI
 - B. UCID
 - C. UICD
 - D. UDCI
7. If I you I would not stand this humiliation.
 - A. am
 - B. was
 - C. were
 - D. be
8. Find the sum of place and face values of 8 in 43836
 - A. 88
 - B. 808
 - C. 880
 - D. 888
9. LCM of two numbers is 3 times of their HCF. The sum of HCF and LCM is 640. If one number is 120, then the other number is....
 - A. 270
 - B. 440
 - C. 520
 - D. 640

10. Find the simple interest on a sum of Rs.12000 at the rate of 18% for 5 yr.

- A. Rs. 12100
- B. Rs. 10800
- C. Rs. 9600
- D. Rs. 8800

11. What should be added in 15% of 160 to get 25% of 240?

- A. 18
- B. 42
- C. 36
- D. 88

12. Ram, Rohit, Raghu can complete a work in 12 days. If Ram does the work alone in 36 days and Rohit in 72 days, then how long will it take for Raghu to finish the work alone?

- A. 12 days
- B. 24 days
- C. 9 days
- D. 7 days

13. The feminine of horse is?

- A. Mare
- B. Mule
- C. Vixen
- D. Doe

14. Identify the correct code:

July	1
January	3
August	1
December	?

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

15. In Microsoft excel, which function removes all nonprintable characters from text?

- A. CLEAN
- B. IF
- C. NESTED IF
- D. IFERROR

16. Which feature of the word processing software such as Microsoft Word enables the creation of table of contents based on document headings?

- A. Hyperlinks
- B. Styles
- C. Spelling and grammar check
- D. Mail merge

17. Which of the following is the short cut key to delete the document permanently from a computer?

- A. Shift + delete
- B. Control + delete
- C. F1 + delete
- D. Tab + delete

18.feature of MS word helps to create a list in a document.

- A. Word Art
- B. Scaling
- C. Word wrap
- D. Bullets and Numbering

19. Which year did ISRO launched its first satellite?
 - A. 1975
 - B. 1970
 - C. 1965
 - D. 1960
20. Number of gold, Silver and bronze medals which India got in Asian Games 2023
 - A. 24, 36, 46
 - B. 22, 38, 46
 - C. 28, 38, 41
 - D. 30, 36, 41
21. Drug and Magic remedies Act came into existence in:
 - A. 1949
 - B. 1954
 - C. 1962
 - D. 1970
22. Which is used to prevent moisture penetration into the tablet core
 - A. Zein
 - B. Shellac
 - C. CAP
 - D. All of the above
23. Which type of surfactant is polyalkoxyether?
 - A. Anionic
 - B. Cationic
 - C. Non-ionic
 - D. Amphiphatic
24.is the antioxidant used for oil based dosage form/system.
 - A. Gallic acid
 - B. Sodium bisulfite
 - C. Thioglycolic acid
 - D. Acetylcystein
25. Which is a water insoluble resin used as coating material.
 - A. Polyethylene
 - B. Vinyl acetate
 - C. Both A and B
 - D. None of the above
26. Calcium sulphate is often used as..... in preparation of dosage form.
 - A. Acidifying agent
 - B. Desiccant
 - C. Buffering agent
 - D. Emulsifying agent
27. Insufficient binder and moisture and excessive pressure during compression results indefect in tablet
 - A. Picking
 - B. Capping
 - C. Bridging
 - D. Lamination
28. Dried seeds of Bixa orellana are used as.....
 - A. Colouring agent
 - B. Flavouring agent
 - C. Preservative
 - D. Indicator

29. Secondary metabolite obtained from *Ruta graveolens* is
 A. Hecogenin
 B. Plumbagin
 C. Hyoscyamine
 D. Betacarotene
30. Fresh root ofis used as natural sweetener.
 A. *Abrus precartius*
 B. *Stevia rebaudiana*
 C. *Glycyrrhiza glabra*
 D. *Betsa vulgaris*
31. Leaves and tops of Cymbopogan martini is used as
 A. Carminative
 B. Insect repellent
 C. Antispasmodic
 D. Flavouring agent
32. The rate of a SN^1 reaction depends only on the concentration of theand not on the
 A. Reactant, nucleophile
 B. Substrate, nucleophile
 C. Reactant, electrophile
 D. Substrate, electrophile
33. Standard disintegration time for vaginal tablets taking water at 37°C as disintegration medium is.....
 A. 3 minutes
 B. 15 minutes
 C. 30 minutes
 D. 60 minutes
34. If one part of solute dissolves in 500 parts of solvent it is said to be.....
 A. Soluble
 B. Very slightly soluble
 C. Insoluble
 D. Sparingly soluble
35. HLB value of 8-16 is for.....
 A. Antifoaming agent
 B. Detergents
 C. W/o emulsifier
 D. Solubilizing agent
36. Butterscotch and maple are recommended flavours fortaste sensation.
 A. Salty
 B. Bitter
 C. Sweet
 D. Sour
37. Ratio of oil: water: gum for cinnamon oil emulsion is.....
 A. 4:2:1
 B. 5:3:2
 C. 2:2:1
 D. 3:2:1
38. The preferred storage containers for dry powders and oligenous solutions
 A. Type I glass
 B. Type II glass
 C. Type III glass
 D. Type IV glass

39. Gamma radiation is preferred mode of sterilization for.....
- Rubber gloves
 - Glass syringes
 - Metal needles
 - All of the above
40. pH of conjunctival sac is
- 7.0-7.4
 - 6.8-7.0
 - 6.0- 6.4
 - 6.5-6.7
41. Coulter counter is based on the principal of.....
- Optical assessment
 - Sedimentation method
 - Conductivity method
 - Air displacement
42. Serine is the starting material for synthesis of
- Amodiaquine
 - Atenolol
 - Ciprofloxacin
 - None of the above
43. The working pH range of phenolphthalein indicator is
- 3.0-4.6
 - 0.5-2.5
 - 7.5-8.0
 - 8.2-10.0
44. Systemic lupus erythematosus is atype of hypersensitivity.
- I
 - II
 - III
 - IV
45.is the most common adverse effect of tetracycline.
- Teeth Discoloration
 - Type I arrhythmia
 - Hepatotoxicity
 - Pancreatitis
46. In.....FDA decided to include women of childbearing age from participating in Phase I and Phase II clinical trials.
- 1974
 - 1977
 - 1980
 - 1983
47. Temporal changes in drug absorption or elimination is called as.....
- Chronopharmacokinetics
 - Biopharmacokinetics
 - Chronopharmacodynamics
 - Biopharmacodynamics
48. of a drug is its systemic availability after extravascular administration compared with IV dosing of the same drug.
- Relative bioavailability
 - Absolute bioavailability
 - Fraction Bioavailability
 - None of the above

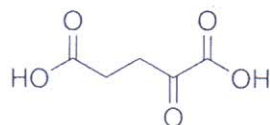
49. In 1979 FDA developedletter categories to designate the risk associated with a drug if used during pregnancy.
- 4
 - 5
 - 6
 - 7
50. The codon UUC and UUU representsamino acid.
- Phenylalanine
 - Histidine
 - Leucine
 - Methionine
51. The alphabet "R" is the symbolic representation ofamino acid.
- Alanine
 - Arginine
 - Tyrosine
 - Valine
52. *Streptomyces aureofaciens* is the source ofandantibiotics.
- Tetracycline; Tobramycin
 - Tetracycline; Polymixin
 - Chlortetracycline; Demeclocyclin
 - Chlortetracycline; Neomycin
53.produces single stranded nicks in DNA.
- Taq DNA Polymerases
 - Polynucleotide kinase
 - Alkaline phosphatases
 - DNase I
54. When 100 mL of 0.1 M sodium hydroxide solution is added to 100 mL of 0.1 M acetic acid ($K_a = 1.82 \times 10^{-5}$), pH of the solution will be
- 6.0
 - 8.3
 - 4.8
 - 7.5
55. Two solutions of a substance (non-electrolyte) are mixed in the following manner. 480 mL of 1.5 M first solution + 520 mL of 1.2 M second solution. What is the molarity of the final mixture?
- 1.24 M
 - 1.34 M
 - 1.44 M
 - 1.54 M
56. How many grams of hydrogen chloride (HCl) are required to prepare 6 Litre of 5M HCl in water?
- 1460 g
 - 1550 g
 - 1700 g
 - 1870 g
57. Elevation of boiling-point is measured by.....
- Landsberger-Walker Method
 - Cottrell's Method
 - Both of the above
 - None of the above
58. In an alkaline medium, sodium carbonate converts product X to enediol and this enediol reduces cupric to cuprous forming red precipitate. Here, product X is.....

- A. Monosaccharide
- B. Polysaccharide
- C. Disaccharide
- D. Oligosaccharide

59. The hormones which stimulate gluconeogenesis are.....

- A. Glucagon, growth hormone
- B. Epinephrine, cortisol
- C. Both the above
- D. None of the above

60. The below structure is obtained after which enzyme action.



- A. Pyruvate dehydrogenase
- B. Isocitrate dehydrogenase
- C. Succinic dehydrogenase
- D. Malate dehydrogenase

61. Which is a left handed DNA?

- A. A-DNA
- B. B-DNA
- C. Z-DNA
- D. All of the above

62. Number of base pairs per turn in B form of DNA are....

- A. 10
- B. 12
- C. 13
- D. 14

63. Which of the following RNAs are the most abundant in an animal cell?

- A. mRNA
- B. tRNA
- C. miRNA
- D. rRNA

64. Raw cotton contains% of cellulose.

- A. 90
- B. 75
- C. 60
- D. 50

65. Revand chini is common name for...

- A. Aloe
- B. Rhubarb
- C. Cascara
- D. Cinnamon

66. Excessive consumption of liquorice leads to....

- A. Diarrhoea
- B. Drowsiness
- C. Dryness in mouth
- D. Hypertension & hypokalaemic alkosis

67. What is the therapeutic indication of Jatamansi?

- A. Hepatitis
- B. Hysteria
- C. Constipation
- D. Alzheimer disease

68. Cyanogenetic glycosides give following test positive.
- Grignard
 - Kellerkilliani
 - Borntrager
 - Baljet
69. The chemical test for flavonoids is..
- Legal's test
 - Baljet's test
 - Sinoda test
 - Heamolytic test
70. Which precursor used for biosynthesis of tropane alkaloids?
- Tyrocine
 - Lysine
 - Lucine
 - Ornithine
71. The plant hormone which shows specific effect on cell division is
- Auxins
 - Abscisic acid
 - Cytokinins
 - Ethylene
72. Leaves of digitalis purpurea give positive test for..
- Borntrager's test
 - Murexide test
 - Legal's test
 - Thelleoquin test
73. Morphine was firstly isolated by
- Dersone
 - Segnin
 - Robiquet
 - Grimaux
74. The general requirements for stability, testing of new drug substance and products is given under which ICH guideline?
- Q1A (R2)
 - Q1B (R2)
 - Q1D (R2)
 - Q1E (R2)
75. Which among the following is not a copper chelator?
- Dimercaprol.
 - Penicillamine
 - Trientine
 - Deferiprone
76. Which of the following is a method of codification of various items of drug store?
- Alphabetic method
 - Numerical method
 - Mnemonic method
 - All of the above
77. A 5% saline solution is....
- Hypotonic
 - Hypertonic
 - Isotonic
 - Iso-osmotic
78. The possible transitions for water molecule in UV-visible region are
- $n \rightarrow \pi^*$; $\pi \rightarrow \pi^*$
 - $\sigma \rightarrow \sigma^*$
 - $\sigma \rightarrow \sigma^*$; $n \rightarrow \pi^*$

- D. n to σ^*
79. The $\lambda_{\max}$ of m-Aminobenzoic acid is..
- 220
 - 243
 - 280
 - 217
80. Which of the following absorbs at more wavelength in UV.
- Benzene
 - Phenol
 - Aniline
 - Anilinium ion
81. According to Hund's rule of maximum multiplicity, what is the most common electron configuration in a molecule with an open d-shell?
- High spin
 - Low spin
 - Intermediate spin
 - No preference
82. Ostwald's dilution law is applicable to...
- Strong electrolytes
 - Weak electrolytes
 - Non-electrolytes
 - All electrolytes
83. A concentrated liquor resulting from heating or boiling a substance, especially a medicinal preparation made from a plant is known as...
- Elixir
 - Syrup
 - Tincture
 - Decoction
84. A drug that relieves itching is?
- Anti-pruritics
 - Anti-septic
 - Anti-spasmodic
 - Anti-tussive
85. Side effect of chloramphenicol is?
- Vomiting,
 - Glossitis
 - Stomatitis
 - Blood dyscrasias
86. Hippocrates is ...
- Father of Microbiology
 - Father of Immunology
 - Father of Medicine
 - Father of Vaccine
87. Which of the following hormone is known as "emergency hormone"?
- Cortisol
 - Growth hormone
 - Prolactin
 - Adrenaline
88. 1 kilogram (Kg) is equivalent topounds (lbs)
- 1.5
 - 2.0
 - 2.2
 - 2.7
89. Which is the most suitable route to bypass first pass metabolism?

- A. Oral
 - B. Buccal
 - C. Sublingual
 - D. All of the above
90. The viscosities of water and chloroform at 25 °C are 0.8904 cps and 0.563×10^{-3} pa.s, respectively. What is the relative viscosity of chloroform?
- A. 0.432
 - B. 0.632
 - C. 0.710
 - D. 0.811
91. What is the concentration of 0.5% (w/v) solution when expressed as mg/mL?
- A. 0.5
 - B. 5
 - C. 50
 - D. 500
92. Which is the SI unit of kinematic viscosity?
- A. cm/s
 - B. m²/s
 - C. cm³/minute
 - D. m³/ minute
93. Which mechanical hazard of packaging creates electrostatic effects?
- A. Vibration
 - B. Temperature
 - C. Light
 - D. Abrasion
94. Labels, cartons are examples of which type of packaging material?
- A. Primary
 - B. Secondary
 - C. Both primary and secondary
 - D. Tertiary
95. According to ICH, which is the long term testing conditions for climatic Zone III?
- A. 21 °C ± 2 °C, 45% RH ± 5% RH
 - B. 30 °C ± 2 °C, 35% RH ± 5% RH
 - C. 30 °C ± 2 °C, 65% RH ± 5% RH
 - D. 30 °C ± 2 °C, 55% RH ± 5% RH
96. Which among the following are not strictly related to printing of labels on packaging materials but can provide decoration?
- A. Roller coating
 - B. Spraying
 - C. Indentation
 - D. All the above.
97. Which method of sterilization is not used for plastic containers?
- A. Dry hot air
 - B. Hot hydrogen peroxide
 - C. Ethylene oxide
 - D. Heat from co-extrusion process
98. Which properties of a polymorph are effected by differences in the dimensions, shape, symmetry, capacity (number of molecules), and void volumes of their unit cells?
- A. Chemical properties
 - B. Physical properties
 - C. Mechanical properties

D. Electrical properties

99. Solvates are interchangeably known as:

- A. Hydrates
- B. Crystals
- C. Co-crystals
- D. Pseudo-polymorph

100. According to schedule P life period of tetracycline capsule is:

- A. 12 months
- B. 24 months
- C. 36 months
- D. 48 months