

SECTION I (PHARMACY)

1. Nitrofurantoin has which of the following in its structure?
 - A) Furan ring
 - B) Nitro group
 - C) Imidazole ring
 - D) All of the above
2. Thymol and menthol mixing leads to which type of incompatibility?
 - A) Chemical incompatibility
 - B) Therapeutic incompatibility
 - C) Physical incompatibility
 - D) Tolerance incompatibility
3. Microcrystalline cellulose is also called as
 - A) Sugar tab
 - B) Avicel
 - C) Nutab
 - D) Emdex
4. Shilajit is which type of drug?
 - A) Herbo-mineral drug
 - B) Marine drug
 - C) Synthetic drug
 - D) None of these
5. The first edition of Indian Pharmacopoeia (IP) was published in
 - A) 1965
 - B) 1975
 - C) 1955
 - D) 1985
6. Anti Parkinsonian drug selegiline is
 - A) COMT inhibitor
 - B) MAO-A inhibitor
 - C) MAO-B inhibitor
 - D) None of these
7. Selective serotonin reuptake inhibitor is
 - A) Imipramine
 - B) Iproniazide
 - C) Naphazoline
 - D) Fluoxetine

8. 'Stock and glove neuropathy' is toxicity caused by
- A) Etoposide
 - B) Paclitaxel
 - C) Fluorouracil
 - D) Vincristine
9. Guggul lipids are obtained from
- A) *Commiphora abyssinica*
 - B) *Commiphora wighti*
 - C) *Boswellia serrata*
 - D) *Commiphora molmol*
10. A metabolite obtained from *Aspergillus terreus* that can bind very tightly to HMG CoA reductase enzyme is
- A) Cerivastatin
 - B) Lovastatin
 - C) Somatostatin
 - D) Fluvastatin
11. The useful variable from in vitro dissolution test data for IVIVC include
- A) $t_{50\%} - t_{63.2\%}$
 - B) Sampling interval
 - C) Sample volume
 - D) Volume of dissolution fluid
12. Which of the following techniques is not useful to detect polymorphs
- A) DSC
 - B) Melting point
 - C) HPLC
 - D) PXRD
13. *Bacopa monnieri* plant belongs to the family
- A) Scrophulariaceae
 - B) Polygalaceae
 - C) Leguminosae
 - D) Rubiaceae
14. Nasal drops are
- A) Hypotonic
 - B) Isotonic
 - C) Hypertonic
 - D) None

15. Type II glass containers are
- A) Suitable for alkaline solutions
 - B) Most inert glasses and show high hydrolytic resistance
 - C) Suitable for acidic and neutral aqueous preparations
 - D) Suitable for non-aqueous preparations suspensions
16. In the process of Extraction, ethanol is used as a solvent for
- A) Sucrose
 - B) Alkaloids
 - C) Waxes
 - D) Gums
17. Which powder must be sterilized before their use
- A) Medicated dusting powders
 - B) Non medicated powders
 - C) Natural dusting powder
 - D) Surgical dusting powders
18. The Nitration of quinoline gives a mixture of
- A) 3-nitro-and 6-nitroquinolines
 - B) 2-nitro-and 7-nitroquinolines
 - C) 5-nitro-and 8-nitroquinolines
 - D) 2-nitro-and 4-nitroquinolines
19. As per the Drugs and Cosmetics Act-1940, if a drug is not labelled in prescribed manner it is a
- A) Spurious drug
 - B) Substandard drug
 - C) Adulterated drug
 - D) Misbranded drug
20. Purity of water can be assessed by determining one of its following properties instrumentally:
- A) pH
 - B) Refractivity
 - C) Viscosity
 - D) Conductivity
21. Large volume parenterals are
- A) Spurious drug Single dose, sterile and contain a bactericide
 - B) Multiple dose, sterile and contain a bactericide
 - C) Single dose, sterile and do not contain a bactericide
 - D) Multiple dose, sterile and may or may not contain a bactericide

22. The test organism used for validation of filtration sterilization is:
- A) *Serratia marscesnes*
 - B) *Pseudomonas diminata*
 - C) *Vibrio percolans*
 - D) All of the above
23. HEPA filters are widely used in
- A) Autoclaves
 - B) Laminar air flow hoods
 - C) Gas sterilizers
 - D) Oxygen masks
24. Freeze drying is the same as
- A) Homogenization
 - B) Chilling
 - C) Refrigeration
 - D) Lyophilization
25. AUC gives an idea about
- A) Rate of absorption
 - B) Extent of absorption
 - C) Both Rate of absorption and Extent of
 - D) None
26. Mottling is a manufacturing defect of _____.
- A) Dry powder formulation
 - B) Emulsions
 - C) Tablets
 - D) Capsules
27. Good manufacturing practices are specified in_____.
- A) Schedule C and C1
 - B) Schedule G
 - C) Schedule M
 - D) Schedule X
28. In nail polish, following polymer is used as a film-former:
- A) Nitrocellulose
 - B) Polylactic acid
 - C) Hydroxypropyl methylcellulose
 - D) Cellulose acetate phthalate

29. How many mL of a 1:500 w/v stock solution should be used to make 5 liters of 1:2000 w/v solution?
- A) 750 mL
 - B) 1000 mL
 - C) 1250 mL
 - D) 1500 mL
30. In isocratic elution technique
- A) The same solvent is used
 - B) The same solvent composition is used
 - C) One solvent is used
 - D) Mixture of solvents is used
31. Titanium dioxide is commonly present in
- A) Vanishing cream
 - B) Sunscreen cream
 - C) Aqueous calamine cream
 - D) Ophthalmic cream
32. The main ingredient of toothpaste for sensitive tooth is
- A) Calcium carbonate
 - B) Sodium fluoride
 - C) Triclosan
 - D) Potassium acesulfame
33. The conditions required for autoclave
- A) 121 °C temp. and 15 lbs. pressure for 20 min
 - B) 120 °C temp. and 20 lbs. pressure for 30 min
 - C) 150 °C temp for 1 hr
 - D) 130°C temp for 2 hr
34. Phenol co-efficient indicates
- A) Efficiency of a disinfectant
 - B) Dilution of a disinfectant
 - C) Purity of a disinfectant
 - D) Quantity of a disinfectant
35. Colourants to be used in cosmetic products in India are listed under ____ schedule of Drug and Cosmetic Act 1940
- A) Y
 - B) M
 - C) Q
 - D) H

36. Oily injections are sterilized by
- A) Moist heat sterilization
 - B) Dry heat sterilization
 - C) Heating with bactericide
 - D) Filtration
37. Concentration of alcohol used in aftershave preparations
- A) 10-30%
 - B) 40-60%
 - C) >80%
 - D) <10%
38. In which Ayurvedic formulation preservative is not required?
- A) Lepa
 - B) Vatika
 - C) Asava
 - D) Pisti
39. Carrageenan-induced pleurisy in rats is considered to be an excellent model for
- A) Acute inflammation
 - B) Sub-acute inflammation
 - C) Chronic inflammation
 - D) Arthritis
40. 70-year-old man has a history of ulcer disease. He has recently experienced swelling and pain in the joints of his hands. His physician wants to begin therapy with a non-steroidal anti-inflammatory drug. Which one of the following drugs might also be prescribed alongwith the NSAIDs in order to reduce the risk of activating this patient's ulcer disease?
- A) Allopurinol
 - B) Colchicine
 - C) Misoprostol
 - D) Probenecid
41. The major reason why carbidopa is of value in parkinsonism is that the compound
- A) Crosses the blood-brain-barrier
 - B) Inhibits aromatic L-amino acid decarboxylase
 - C) Inhibits monoamine oxidase type A
 - D) Is converted to the false neurotransmitter carbidopamine
42. Which one of the following may give false + glucose indication with Tes-Tape
- A) Vitamin B
 - B) Vitamin C
 - C) Vitamin E
 - D) Tetracycline

43. $\text{CH}_3\text{O}^- \text{Na}^+ + \text{CH}_3\text{Cl} = \text{CH}_3\text{OCH}_3 + \text{NaCl}$. This reaction is an example for which of the following?
- A) Williamson reaction
 - B) Clemmenson reaction
 - C) Wurtz's reaction
 - D) Reformatsky reaction
44. Which of the following antihypertensive drug is used in the treatment of alopecia?
- A) Reserpine
 - B) Diazoxide
 - C) Minoxidil
 - D) Hydralazine
45. Pungency of *Zingiber officinale* rhizome is due to the presence of
- A) Gingerol
 - B) Gingeral
 - C) Citral
 - D) Commiphoric acid
46. FAD and FMN are co-enzyme form of
- A) Riboflavin
 - B) Thiamine
 - C) Ascorbic acid
 - D) Niacin
47. When a drug binds to a silent receptor,
- A) No pharmacological response occurs
 - B) The drug gets metabolized
 - C) Neuroendocrine hormones get released
 - D) DNA changes occur
48. Which of the following is not a hot extraction technique.
- A) Infusion
 - B) Soxhlet extraction
 - C) Maceration
 - D) Reflux
49. Which one of the following drugs is to be avoided in diarrhoea
- A) Beta receptor blocker
 - B) Alpha receptor blocker
 - C) 1-12 receptor antagonist
 - D) Muscarinic receptor antagonist
50. Aurio dextra means which one of the following?
- A) left ear
 - B) take immediately
 - C) right ear
 - D) take as directed

SECTION II (RESEARCH METHODOLOGY)

51. Research is
- A) Producing available knowledge again and again
 - B) Finding solution to any problem
 - C) Working in a scientific way to search for truth of any problem.
 - D) None of the above
52. Computed measure of how much scores vary around the mean score.
- A) range
 - B) standard deviation
 - C) normal curve
 - D) skewed distribution
53. Which of the following statements is true?
- A) The mean is a continuous variable.
 - B) The variance and standard deviation of a normal population are equal.
 - C) For large samples, the distribution of scores is approximately normal.
 - D) None of the above
54. Taking someone else's words or ideas and taking credit for them as your own.
- A) cite
 - B) plagiarism
 - C) paraphrase
 - D) credit
55. What steps are involved in a central tendency test?
- A) Addition, subtraction, and division.
 - B) Determination of mean, median, and mode.
 - C) Addition, subtraction, multiplication, and division.
 - D) None of the above
56. Random sampling is also called _____.
- A) Availability sampling
 - B) Probation sampling
 - C) Probability sampling
 - D) Prospect sampling
57. What is the Median of the following data sample?
2, 7, 4, 8, 9, 10, 6, 12, 13
- A) 8
 - B) 11
 - C) 9
 - D) 10
58. Which of the following statements is CORRECT?
- A) Research is a hurried activity.
 - B) Research starts with a problem and ends with a problem.
 - C) Research is not a contributing factor of progress.
 - D) Research is an investigation where you look for answers that are already there.

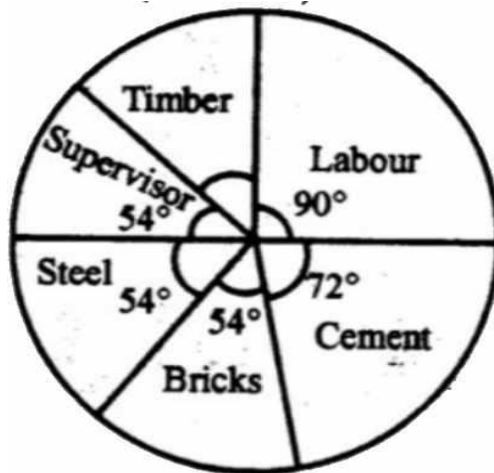
59. Which of the following has same mean median and mode?
- A) 6,5,2,4,3,4,1
 - B) 4,2,2,1,3,2,3
 - C) 2,3,7,3,8,3,2
 - D) 4,3,4,3,4,6,4
60. Resource libraries, economic census, trade shows & associations would be examples of what kind of data sources?
- A) Tertiary
 - B) Secondary
 - C) Primary
 - D) Unprofessional
61. The purpose of correlation research is to:
- A) study the relationship between two or more than two variables
 - B) predict the criterion variable on the basis of predictor variable
 - C) Both (1) and (ii)
 - D) Neither (i) Nor(ii)
62. It is sometimes called “central location” or just “center”. It is a way to describe what’s typical for a set of data. It is called.
- A) Middle destination
 - B) Center fold
 - C) Central Tendency
 - D) Mid frequency
63. Which is NOT a step of the scientific method?
- A) Hypothesis
 - B) Analyse data
 - C) Count items
 - D) Report Findings
64. In order to pursue the research, which of the following is priorly required?
- A) Developing a research design
 - B) Formulating a research question
 - C) Deciding about the data analysis procedure
 - D) Formulating a research hypothesis
65. Every person in the population has an equal chance of being selected -which sampling method
- A) Systematic sampling
 - B) Quota sampling
 - C) Volunteer sampling
 - D) Random sampling

66. When a distribution of scores is skewed, which of the following is the most representative measure of central tendency?
- A) Inference
 - B) Standard deviation
 - C) Mean
 - D) Median
67. An even spread of a variable that is symmetrical about the mean median and mode.
- A) bar graph
 - B) histogram
 - C) scatter graph
 - D) normal distribution
68. A diagram with rectangles showing values or numbers.
- A) Pictogram
 - B) Pie chart
 - C) Bar chart
 - D) Line graph
69. Type of research that solve practical issues is;
- A) Fundamental research
 - B) Exploratory research
 - C) Applied research.
 - D) Empirical research
70. What should not be included in the conclusion?
- A) literature review
 - B) summary
 - C) implication
 - D) major findings
71. A variable that is being manipulated is_____
- A) Independent variable
 - B) dependent variable
 - C) confounding variable
 - D) extraneous variable
72. What is qualitative research?
- A) Observation and description of activities, situations, attitudes, or behaviors of a specific group of people.
 - B) Analysis of numerical data.
 - C) Numerical comparisons and statistical inferences.
 - D) None of above
73. A standard deviation can never be
- A) positive
 - B) negative
 - C) zero
 - D) None

74. The sample standard deviation is denoted by:
- A) s
 - B) p
 - C) Σ
 - D) σ
75. First step of an investigation is _____ .
- A) collection of data.
 - B) presentation of data.
 - C) analysis of data.
 - D) explanation of data.
76. The sum of absolute deviations about median is _____.
- A) the least
 - B) the greatest
 - C) zero
 - D) equal
77. When the value of $r=0$, it is said to be _____.
- A) no correlation.
 - B) positive.
 - C) perfect positive.
 - D) perfect negative.
78. The straight-line trend is represented by the equation _____.
- A) $y=a+bx$
 - B) $y=mx$
 - C) $y=ax/ay$
 - D) $y=a*bx$
79. In discrete and continuous frequency distributions $N=$ ____ .
- A) the sum of frequency.
 - B) number of observations.
 - C) minimum value.
 - D) maximum value.
80. _____ is used to compare the variability of two or more than two series.
- A) Mean.
 - B) Standard deviation.
 - C) Coefficient of variation.
 - D) Mean deviation.
81. The simplest device for ascertaining whether two variables are related is to prepare a dot chart is called _____ .
- A) graphical method.
 - B) scatter diagram method.
 - C) method of least square.
 - D) concurrent deviation method.

82. A bag contains 10 black and 20 white balls; a ball is drawn at random. What is the probability that it is black?
- A) $\frac{1}{2}$
 - B) $\frac{1}{3}$
 - C) 0
 - D) 3
83. Diagrams are for _____
- A) the use of exports.
 - B) better quantitative picture.
 - C) better mental appeal
 - D) the use of imports.
84. Which of the following is not a type of research design?
- A) Experimental design
 - B) Descriptive design
 - C) Correlational design
 - D) Probability design
85. What is a research hypothesis?
- A) A tentative explanation for a phenomenon
 - B) A statement that is proven to be true
 - C) A prediction of what the researcher expects to find
 - D) A statement of fact
86. What is the purpose of a pilot study?
- A) To test the feasibility of the research design
 - B) To test the reliability and validity of the measures
 - C) To determine the appropriate sample size
 - D) To collect preliminary data
87. In five One-Day Internationals, a batsman has scored 31,97,112, 63, and 12 runs. the quality deviation of the info is-
- A) 21.78
 - B) 23.79
 - C) 25.79
 - D) 26.77
88. Determine the mode of the decision received seven days in a row: 11,13,13,17,19,23,25
- A) 11
 - B) 13
 - C) 17
 - D) 23

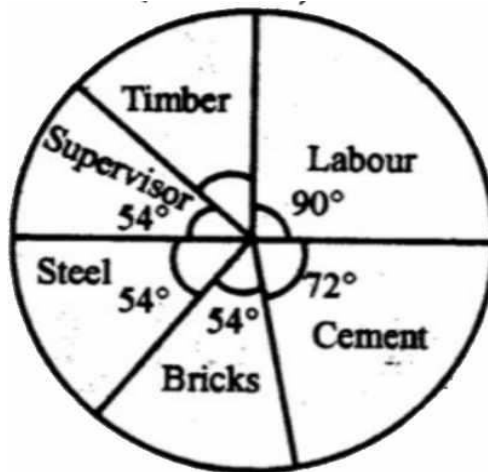
89. The following pie chart comprises the cost of constructing one house. The total cost was Rs. 6 lakhs



The amount spent on cement is

- A) Rs.2,00,000
- B) Rs.1,60,000
- C) Rs.1,20,000
- D) Rs.1,00,000

90. Referring to chart below,



the amount spent on cement, steel and supervision is what percent of the total cost of construction?

- A) 40%
- B) 45%
- C) 50%
- D) 55%

91. Table shows the mobile phones sold on different days by different sellers. Read the table carefully and answer the questions.

Mobiles Phones Sellers	Day						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
P	40	45	48	28	50	24	20
Q	90	92	27	12	16	98	26
R	80	36	30	13	28	62	47
S	60	46	12	64	52	34	76
T	48	18	58	69	70	10	15

Find the difference of mobile phones sold by P and R together on Monday to the mobile phones sold by S and T on Wednesday.

- A) 60
- B) 50
- C) 80
- D) 20

92. Referring to above table, Find the ratio of mobile phones sold by Q on Tuesday and Saturday together to the mobile phones sold by R on Thursday and Sunday together.

- A) 7 : 19
- B) 19 : 5
- C) 19 : 6
- D) 2 : 5

93. The frequency distribution of a numerical data can be graphically represented by a _____

- A) Histogram
- B) Telegram
- C) Monogram
- D) Anagram

94. Which one of the following is not the graphical representation of statistical data:

- A) Bar graph
- B) Histogram
- C) Frequency polygon
- D) Cumulative frequency distribution

95. In a histogram, each class rectangle is constructed with base as

- A) frequency
- B) class-intervals
- C) range
- D) size of the class

96. What does the command `\documentclass{article}` do in LaTeX?
- A) It sets the document class as an article
 - B) It creates a new section in the document
 - C) It sets the font style of the document
 - D) It creates a new document
97. What does the command `\begin{center}` do in LaTeX?
- A) It creates a new center-aligned section.
 - B) It sets the font size to center aligned.
 - C) It creates a new paragraph.
 - D) It centers the text or content.
98. Which of the following procedures would not be included in a programme of qualitative research?
- A) Assessment of effect size.
 - B) Development of appropriate research questions.
 - C) Clarification of the logic linking the data to research propositions.
 - D) Explanation of criteria for data interpretation.
99. What is the most common method of data collection in quantitative research?
- A) Interviews
 - B) Focus groups
 - C) Observation
 - D) Surveys/questionnaires
100. Which statistical test is used to determine if there is a significant difference between the means of two or more groups in quantitative research?
- A) t-test
 - B) ANOVA (Analysis of Variance)
 - C) Chi-square test
 - D) Regression analysis