



*Do Not Write Here*



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SPACE FOR ROUGH WORK



## PART – A

1. Arrange the given words in alphabetical order and choose the one that comes last.  
A) Cover                      B) Collect                      C) Caught                      D) Callous

**Directions : A foreign expression and four English phrases are given. Identify the meaning of the foreign expression from the choices.**

2. per se  
A) By word of mouth                      B) Gossip  
C) By itself                      D) Spontaneous

**Directions : Identify the meaning of underlined word as used in the sentence, from among four alternatives.**

3. The presence of hawkers on footpaths hinders both pedestrian and vehicular movement.  
A) buyers                      B) vendors                      C) beggars                      D) rag pickers

**Directions : An idiom and four possible meaning are given, identify the meaning of the idiom from among the answer choices.**

4. A man of the world  
A) highly trust worthy                      B) very popular because of success  
C) a man of wit or genius                      D) highly experienced in many fields

**Directions : Fill in the blanks in the given sentence to make it logically and grammatically correct.**

5. Farmers know that changing winds \_\_\_\_\_ rain or drought.  
A) bring                      B) create                      C) form                      D) present

**Directions : A sentence is written in four different forms. Only one of them is grammatically correct. Choose the correct sentence as your answer.**

6.  
A) Each of the participants were given a gift  
B) Everyone of the participants were given a gift  
C) All of the participants was given a gift  
D) Each of the participants was given a gift

**Directions : Four alternative substitutes are given for the underline portion. Identify the choice that replace the underline part to form a logical and grammatically correct statement.**

7. I am hoping to see you again tomorrow at the party.  
A) I am hoping to see you                      B) I may have seen you  
C) I have been seeing you                      D) I hope to see you

**Directions : A word and four jumbled choices are given. One of the choices, when properly arranged, give the meaning of the word. Identify the correct choice.**

8. BUSY  
A) EOTRPY                      B) URDOO  
C) DSTIOINSURU                      D) AGLN



**Directions : From the choices, select the most suitable synonym for the main word.**

9. ADEPT

- A) devious                      B) wily                      C) clumsy                      D) dexterous

**Directions : From the choices, select the most suitable antonym for the main word.**

10. ELUCIDATE

- A) impart                      B) inflame                      C) excite                      D) baffle

**Directions : There is a certain relation between two given words on one side of :: and one word is given on another side of :: while another word is to be found from the given alternatives, having the same relation with this word as the given pair has. Select the best alternative.**

11. Acting : Theatre :: Gambling : ?

- A) Casino                      B) Club                      C) Bar                      D) Gym

**Directions : There is a certain relation between two given numbers on one side of :: and one number is given on another side of :: while another number is to be found from the given alternatives , having the same relation with this number as the given pair has. Select the best alternative.**

12. 25 : 125 :: 36 : ?

- A) 206                      B) 216                      C) 226                      D) 318

**Directions : In the given question, four words have been given, out of which three are alike in some manner and the fourth one is different. Choose out the odd one.**

13.

- A) Titan                      B) Mercury                      C) Earth                      D) Jupiter

**Directions : In the given question, four numbers are given. Out of these, three are alike in a certain way but the rest one is different. Choose the one which is different from the rest three.**

14.

- A) 324                      B) 244                      C) 136                      D) 352

**Directions : In the given question, a number series is given with one term missing. Choose the correct alternative that will continue the same pattern.**

15. 5,9,17,29,45, (.....)

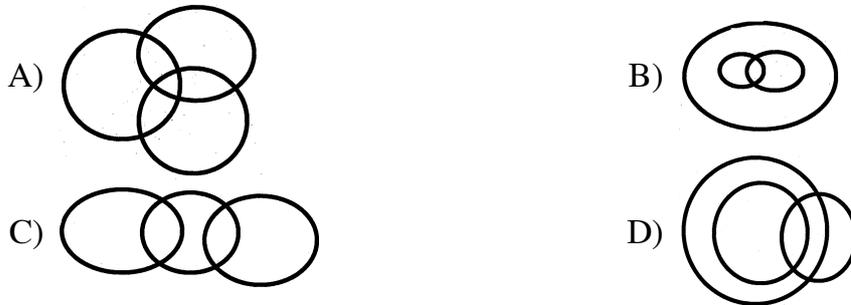
- A) 60                      B) 65                      C) 68                      D) 70

16. If in a certain language, POPULAR is coded as QPQVMBS, which word would be coded as GBNPVT ?

- A) FAMOSU                      B) FAMOUS                      C) FASOUM                      D) FOSAUM



17. Which of the following diagrams correctly represents Cricket, Players, students ?



18. Find the number which when multiplied by 15 is increased by 196.  
 A) 14                      B) 20                      C) 26                      D) 28
19. Rs. 1210 were divided among A, B, C so that  $A : B = 5 : 4$  and  $B : C = 9 : 10$  then, C gets  
 A) Rs. 340                      B) Rs. 400                      C) Rs. 450                      D) Rs. 475
20. If 11.25 meter of a uniform iron rod weighs 42.75 kg, what will be the weight of 6 meter of the same rod ?  
 A) 22.8 kg                      B) 25.6 kg                      C) 28 kg                      D) 26.5 kg
21. A train 132 meter long passes a telegraph pole in 6 seconds. Find the speed of the train.  
 A) 70 km/hr                      B) 72 km/hr                      C) 79.2 km/hr                      D) 80 km/hr
22. The Travel and Tourism Competitiveness Index (TTCI) is released by  
 A) IMF                                      B) World Bank  
 C) World Economic Forum                      D) UNCTAD
23. Scientists have discovered a protein that can make vaccinations more effective and provide protection from disease such as cancer. The protein is  
 A) Guanine                      B) Tryptophan                      C) Peptide P                      D) Por B
24. 'Bhoorsingh the Barasingha' is the Mascot of  
 A) Kanha Tiger Reserve                      B) Ranthambhore Tiger Reserve  
 C) Pench National Park                      D) Madhumalai National Park
25. Who has recently become the first Woman Field Officer in the Border Security Force (BSF) ?  
 A) Ms. Tanushree Pareek                      B) Ms. Vahini Singh  
 C) Ms. Roopa Rathore                      D) Ms. Arundhati Bhattacharya



26. Which of the following is not correct ?
- A) Research refers to a search for new knowledge
  - B) Research is an art of scientific investigation
  - C) Research is defined as a systematized effort to gain new knowledge
  - D) Research means searching the same fact again and again
27. Which of the following is correct ?
- A) The main aim of a research is to find out the hidden truth
  - B) The foremost objective of a research is to verify the known truth
  - C) The main purpose of a research is to conduct investigations only in scientific areas
  - D) The chief objective of a research is to know more about nonscientific fields
28. Which of the following is not correct as a motivation in research ?
- A) To enhance educational qualifications
  - B) To face the challenges in solving the unsolved problems
  - C) To make more money
  - D) To get intellectual satisfaction
29. Which of the following is not a type of research ?
- A) Descriptive vs. Analytical
  - B) Applied vs. Fundamental
  - C) Explanatory vs. Non-explanatory
  - D) Quantitative vs. Qualitative
30. The quantitative approach to a research includes
- A) Inferential approach
  - B) Experimental approach
  - C) Simulation approach
  - D) A, B, and C
31. Research has its special significance in solving various operational and planning problems of
- A) Business
  - B) Industry
  - C) Agriculture
  - D) A', 'B' and 'C'
32. Research methods and research methodology represent
- A) The same thing
  - B) The two different issues
  - C) The related issues
  - D) None of the above
33. Research methods include
- A) Methods for collecting the required data
  - B) Methods for finding relationship between the data and the unknowns
  - C) Methods for evaluating the accuracy of the results derived
  - D) All of the above
34. Research methodology consists of
- A) Research methods
  - B) Assumptions of research methods
  - C) Relevance of the research methods
  - D) All the above



35. Research process begins with
- A) Formulation of the research problem      B) Literature review  
C) Development of working hypothesis      D) Preparing the research design
36. Research process ends at
- A) Data collection      B) Data analysis  
C) Preparation of the report or the thesis      D) Hypothesis testing
37. A working hypothesis is defined as
- A) Central point of conclusion  
B) Tentative assumption about the target population  
C) Literature review  
D) None of the above
38. A null hypothesis denotes
- A) The neutral hypothesis      B) No hypothesis  
C) The desired hypothesis      D) B or C
39. Research design aims at
- A) Conceptual structure within which research would be carried out  
B) Formulation of strategy for drawing conclusion  
C) The data collection stage  
D) The preparation of report
40. Population means
- A) A group of objects having some common characteristics  
B) Number of persons living in a place  
C) Number of only citizens of a country  
D) Only children of a country
41. A sample represents
- A) A part of a population  
B) A smaller part that represents a population  
C) Only a smaller part of a population  
D) None of the above

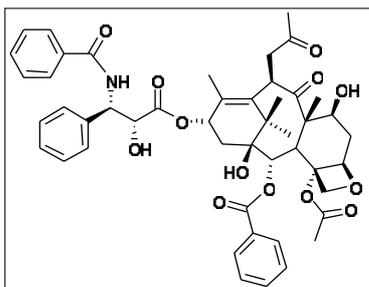


42. A sample design is
- A) A definite strategy for selecting a sample from a given population
  - B) Decided after the data collection
  - C) Not important for the data collection
  - D) A or B
43. A sample size is denoted by
- A) N
  - B) n
  - C)  $\alpha$
  - D)  $\beta$
44. A population size is represented by
- A) n
  - B)  $\mu$
  - C) N
  - D)  $\alpha$
45. A sampling method could be based on
- A) Probability
  - B) Without the concept of probability
  - C) Either 'A' or 'B'
  - D) Neither 'A' nor 'B'
46. Simple random sampling is a method of
- A) Probability sampling
  - B) Non-probability sampling
  - C) Both 'A' and 'B'
  - D) Neither 'A' nor 'B'
47. Quota sampling is a method of
- A) Probability sampling
  - B) Non-probability sampling
  - C) Both 'A' and 'B'
  - D) Neither 'A' nor 'B'
48. Usually an experiment is conducted in a laboratory following
- A) Latin square design
  - B) Randomized block design
  - C) Completely randomized design
  - D) None of the above
49. In a survey schedules are used when the replies of the questions are entered by
- A) Investigators
  - B) Respondents
  - C) Both 'A' and 'B'
  - D) Neither 'A' nor 'B'
50. In a survey questionnaires are used when the replies of the questions are entered by
- A) Investigators
  - B) Respondents
  - C) Both 'A' and 'B'
  - D) Neither 'A' nor 'B'



## PART – B

51. What is the name of structure shown below which is an important anticancer agent?

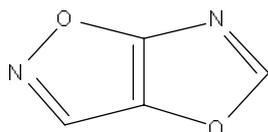


- A) BMS 188797      B) Paclitaxel      C) Docetaxel      D) Ortataxel
52. Which of the following drugs was not isolated from a natural source ?  
 A) quinine      B) morphine      C) isoniazid      D) artemisinin
53. Which of the following statements is true about a tyrosine kinase linked receptor ?  
 A) It is situated in the cytoplasm  
 B) The *N*-terminal chain is intracellular  
 C) The ligand binding site is in the *N*-terminal chain  
 D) It has two hydrophobic transmembrane regions
54. Natural products are often used as lead compounds in the design and synthesis of novel drugs. Which of the following general characteristics of a natural product is most likely to be a disadvantage in synthesizing analogues ?  
 A) novelty of structure      B) complexity of structure  
 C) level of activity      D) availability
55. Which of the following statements is not true of herbal medicines ?  
 A) Herbal medicines may contain a range of active principles acting together to produce a beneficial effect  
 B) Herbal medicines have no side effects compared to conventional medicines  
 C) It is more difficult to receive an overdose of an active drug if it is present in a herbal medicine rather than as a pure medicine  
 D) Certain compounds in herbal medicines may enhance the activity of the active principle
56. In Gas-Liquid Chromatography, some of the samples need to be derivatized in order to increase their  
 A) Volatility      B) Solubility  
 C) Thermal conductivity      D) Polarizability





68. Distomer is  
 A) Active isomer  
 B) Inactive isomer  
 C) Geometrical isomer  
 D) Configurational isomer
69. Indicate the fusion by giving letters to the base components and numbers to the prefix

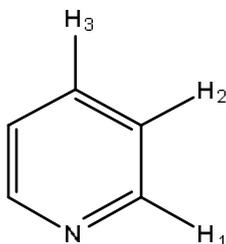


oxazolo[ ]isoxazole

- A) 5,4-d                      B) 3,2-b                      C) 5,4-c                      D) 2,3-b
70. Upon standing sometimes gel system shrink a bit and liquid is pressed out. What is the phenomenon known as ?  
 A) Oozing                      B) Syneresis                      C) Shrinking                      D) Desolvation
71. By addition of which of the following shells of soft gelatin capsules may be made elastic ?  
 A) Polyethylene glycol                      B) Sorbitol  
 C) Glycerol                      D) Dibutyl phthalate
72. The first stage of wetting on addition of a granulating agent to the powders is characterized by which one of the following ?  
 A) Capillary State                      B) Pendular State  
 C) Funicular State                      D) Droplet State
73. The Reynolds number widely used to classify flow behavior of fluids is the ratio of which one of the followings ?  
 A) Inertial forces to gravitational forces                      B) Inertial forces to viscous forces  
 C) Viscous forces to inertial forces                      D) Viscous forces to gravitational forces
74. How many tablets are used for weight variation test according to IP ?  
 A) 10                      B) 15                      C) 20                      D) 25
75. The substance that is used to subcoat the tablet is  
 A) Shellac                      B) Bees wax                      C) Carnauba wax                      D) Sugar
76. The sweetening agent that is used in formulation of chewing tablet is  
 A) Sucrose                      B) Cyclamate sodium  
 C) Saccharin sodium                      D) Mannitol



77. The chemical shift for the protons H<sub>1</sub>, H<sub>2</sub> and H<sub>3</sub> of pyridine are



- A) 8.6, 7.0, 7.6      B) 7.0, 7.6, 8.6      C) 8.6, 9.0, 7.6      D) 9.0, 8.6, 7.0

78. Titanium dioxide is used in sun screen products as a topical protective. The topical protective effect of titanium dioxide is arising due to one of the following properties. Identify that

- A) It has high bulk density      B) It has high LTV absorptivity  
C) It has low water solubility      D) It has high refractive index

79. The integrity of seals in case of vials and bottles is determined by some tests. Choose the appropriate one

- A) Leaker's test      B) Water hammer test  
C) Spark tester probe      D) All of the above

80. BCS Class II pharmaceutical possess ?

- A) High solubility and low permeability      B) Low solubility and high permeability  
C) High solubility and high permeability      D) Low solubility and low permeability

81. Following is not comesticceutical

- A) Anti-aging Cream      B) Moistureriser  
C) Deodarant      D) Antiwrinkle cream

82. Degradation of suspension follows

- A) First order kinetics      B) Zero order Kinetics  
C) Non-linear kinetics      D) None

83. The Hammett equation in organic chemistry relates structure to both equilibrium constants and rate constants for

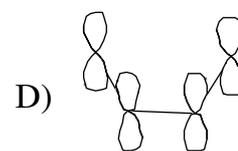
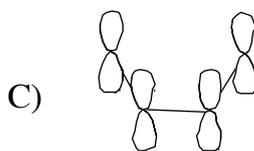
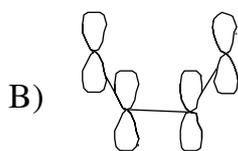
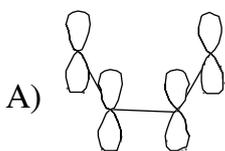
- A) Reactions for meta and para substituted benzene  
B) Free radical reactions  
C) Photochemical reactions  
D) Multi-centred reactions



84. Which of the following reaction undergoes without formation of intermediate ?  
A)  $S_N^1$  reaction      B)  $S_N^i$  reaction      C) Ar  $S_N^1$  reaction      D)  $S_N^2$  reaction
85. Tablet coating defect is  
A) Bridging      B) Orange peel effect  
C) Sticking      D) All
86. One of the modern methods for studying free radicals is  
A) IR spectra      B) UV spectra  
C) CIDNP      D) Microwave spectra
87. Green chemistry means such reactions which  
A) Are related to depletion of ozone layer  
B) Study the reactions in plants  
C) Produce green colour during reactions  
D) Reduce the use and production of hazardous chemicals
88. Schedule C as per D&C act deals with  
A) Standard of cosmetics  
B) Life period of drugs  
C) Biological and special products  
D) List of minimum equipments for running pharmacy
89. Ibuprofen enteric coated tablets are  
A) SR tablet      B) Delayed release tablets  
C) Pulsed release tablets      D) None
90. How many principles of the green chemistry are ?  
A) 10      B) 9      C) 11      D) 12
91. In the mixing of thymol and menthol the following type of incompatibility occurs  
A) Chemical incompatibility      B) Therapeutic incompatibility  
C) Physical incompatibility      D) Tolerance incompatibility
92. Bloom strength is used to check the quality of  
A) Lactose      B) Ampoules  
C) Hardness of tablets      D) Gelatin



93. What are the ionic liquids ?  
A) Liquids having ions  
B) Salts of an organic cation and inorganic anion liquid at room temperature  
C) Salt of an organic cation only  
D) Salt of an inorganic anion only
94. The electrocyclic reaction for ground state of hexatrienes  
A) Conrotatory  
B) Disrotatory  
C) Conrotatory or Disrotatory depending on reaction temperature at which reaction is carried out  
D) Cannot be predicted
95. Which one of the following is a flocculating agent for a negatively charged drug ?  
A) Aluminium chloride  
B) Bentonite  
C) Tragacanth  
D) Sodium biphosphate
96. The healing agent used in hand creams is  
A) soft paraffin      B) urea      C) bees wax      D) stearyl alcohol
97. The applicability of Noyes-Whitney equation is to describe  
A) First order kinetics  
B) Zero order kinetics  
C) Mixed order kinetics  
D) Dissolution rate
98. Diels-alder reaction is a  
A) [2+2] thermal cyclization  
B) [4+2] photoaddition  
C) [4+2] cycloaddition  
D) [3+3] photoaddition
99. The LUMO of ground state buta-1,3-diene is



100. What is the role of xanthan gum within some liquid formulations ?  
A) Regulate pH  
B) Control viscosity  
C) Enhance solubility  
D) Enhance stability
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