

Seat No.	
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**ENT - 35**

**Total No. of Pages : 16**

**P. G. Re-Entrance Examination, 2025**  
**M.Sc. AGRO CHEMICALS AND PEST MANAGEMENT**  
**Sub. Code: 58726**

**Day and Date : Thursday, 10-07-2024**

**Total Marks : 100**

**Time : 01.00 a.m. to 02.30 p.m.**

**Instructions :**

- 1) All questions are compulsory.
- 2) Each question carries 1 mark.
- 3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
- 4) Follow the instructions given on OMR sheet.
- 5) Rough work shall be done on the sheet provided at the end of questionpaper.

1. Methyl orange is a.....

- |                          |              |
|--------------------------|--------------|
| A. Triphenyl methane dye | B. Azodye    |
| C. Quinone dye           | D. Nitro dye |

2. Internal reference used in NMR is.....

- |                      |                        |
|----------------------|------------------------|
| A. CHCl <sub>3</sub> | B. Acetone             |
| C. Ethyl acetate     | D. Tetra-methyl silane |

3. The compound which shows M+2 peak of 1/3 intensity as compared to M in its mass spectrum. This indicates that it contains .....

- |             |               |
|-------------|---------------|
| A. Chlorine | B. Bromine    |
| C. Fluorine | D. Phosphorus |

4. Endosulphan is used as a.....

- |                |                           |
|----------------|---------------------------|
| A. Insecticide | B. Plant growth regulator |
| C. Herbicide   | D. Fumigant               |

5. The starting materials for polyamide fiber are.
- A. Phenol and formaldehyde
  - B. Adipic acid & Hexamine
  - C. Dimethyl terephthalate and ethylene glycol
  - D. Hexamine & ethylene glycol
6. Which of the following compounds shows a singlet, triplet and quartet in NMR?
- A. Acetone
  - B. Ethyl methyl ketone
  - C. Ethyl benzoate
  - D. Ethanol
7. In UV the wavelength of absorption.....
- A. 200-400nm
  - B. 400-800nm
  - C. 100-200nm
  - D. All the above
8. NMR spectra are observed in ..... region
- A. Radiofrequency
  - B. Microwave
  - C. UV-Visible
  - D. X-ray
9. Which of the following compounds is not aromatic?
- A. Naphthalene
  - B. Benzene
  - C. Phenol
  - D. cyclohexane
10. Rectified spirit contains.....
- A. 70% ethanol
  - B. 90% ethanol
  - C. 96% ethanol
  - D. 100% ethanol
11. The carbaryl is a.....
- A. Carbamate Insecticide
  - B. Organophosphorus insecticide
  - C. Insecticide
  - D. Pyrethroid

12. Indolacetic acid is a.....
- |              |                           |
|--------------|---------------------------|
| A. Fungicide | B. Insecticide            |
| C. Herbicide | D. Plant growth regulator |
13. Cyclo-octane is.....
- |                 |                   |
|-----------------|-------------------|
| A. Aromatic     | B. Anti-aromatic  |
| C. Non-aromatic | D. Pseudoaromatic |
14. Chemical name of washing soda is .....
- |                               |                     |
|-------------------------------|---------------------|
| A. Sodium carbonates          | B. Sodium chloride  |
| C. Sodium hydrogen carbonates | D. Sodium hydroxide |
15. Universal solvent is.....
- |                         |                         |
|-------------------------|-------------------------|
| A. Liquid $\text{NH}_3$ | B. Liquid $\text{SO}_2$ |
| C. Water                | D. Acetic acid          |
16. Pure metallic solids are.....
- |                     |                    |
|---------------------|--------------------|
| A. Super conductors | B. Good conductors |
| C. Semiconductors   | D. Insulators      |
17. Bonding in metals is best explained by.....
- |                        |                             |
|------------------------|-----------------------------|
| A. Valence bond theory | B. Crystal field theory     |
| C. Ligand field theory | D. Molecular orbital theory |
18. MIC is required for the synthesis of.....
- |                  |               |
|------------------|---------------|
| A. IAA           | B. Carbaryl   |
| C. Monocrotophos | D. Endosulfan |
19. Ammonia is used in bulk for the production of .....
- |               |               |
|---------------|---------------|
| A. Food items | B. Soap       |
| C. Fertilizer | D. Pesticides |

20. The distance between the centers of the peaks of doublet is called as?
- A. Coupling constant                      B. Spin constant  
C. Spin-spin coupling                      D. Chemical shift
21. Calomel electrode is reversible with respect to ..... ion.
- A. Chloride                                      B. Bromide  
C. Iodide                                        D. Fluoride
- 22 .....is an anti-malarial drug
- A. Phenobarbitone                              B. Paludrine  
C. Penicillin-G                                D. Sulpha drugs
23. Which of the following liquids forms completely soluble mixture?
- A. phenol and water                              B. Benzene and water  
C. Ethanol and water                              D. All of the above
24. During photosynthesis ..... acts as photosensitizer.
- A. Chlorophyll                                      B. Water  
C. Carbon dioxide                                D. Glucose
25. The wavenumber of a transition is  $2000\text{ cm}^{-1}$ . In what part of the electromagnetic spectrum does this come?
- A. Radiowave                                      B. Microwave  
C. Infrared                                        D. Ultraviolet-visible
26. Which of the following reagent converts an acid into alcohol Lindlar,s catalyst is
- A.  $\text{LiAlH}_4$                                         B.  $\text{Pd/BaSO}_4$   
C.  $\text{ZnCl}_2$                                         D. Aluminumisopropoxide in isopropanol

27. Concept of superconductivity was introduced by .....  
A. Pauling  
B. Hund  
C. H. bethe  
D. Kammerlingonnes
28. In metallic solid, lattice points are accommodated by .....  
A. molecules  
B. metal ions  
C. atoms  
D. ions
29. Substance with zero resistance is known IIS .....  
A. conductor  
B. superconductor  
C. semiconductor  
D. insulator
30. Crude oil can be transferred in to petrol by.....  
A. Filtration  
B. Sedimentation  
C. Distillation  
D. Reduction
31. Co-ordination position isomers are related to ..... complexes.  
A. Bridged  
B. cationic  
C. anionic  
D. neutral
32. According to MOT overlapping orbitals must have.....  
A. comparable energy  
B. same symmetry  
C. appreciable overlap  
D. all of these
33. According to HSAB concept is ..... soft acid.  
A.  $\text{Li}^+$   
B.  $\text{Ni}^{2+}$   
C.  $\text{Hg}^{2+}$   
D.  $\text{Mg}^{2+}$
34. Soft-soft interaction produces .....compounds.  
A. Covalent  
B. Ionic  
C. Non-metallic  
D. Metallic

35. Rate determining step is the .....step in the mechanism.
- A. Fast  
C. Very fast  
B. Slow  
D. Moderately fast
36. Cyclo-octane is .....
- A. Aromatic  
C. Non aromatic  
B. Anti-aromatic  
D. Pseudoaromatic
37. Aldol condensation is carried out in presence of.....
- A. Mild or dilute alkali  
C. Concentrated alkali  
B. Dilute acid  
D.  $\text{AlCl}_3$
38. Fermentation is called anaerobic process because it occurs in.....
- A. Presence of  $\text{CO}_2$   
C. Presence of  $\text{O}_2$   
B. Absences of  $\text{CO}_2$   
D. Absences of  $\text{O}_2$
39. Wittig reaction is used to convert carbonyl compound into.....
- A. Ester  
C. Olefin  
B. Amine  
D. Acid
40. According to Beer-Lamberts Law, the absorbance (A) of the solution is.....
- A. Directly proportional to wavelength  
B. Indirectly proportional to concentration of solution  
C. Directly proportional to concentration of solution  
D. Directly proportional to transmitted light
41. Water molecule has distorted tetrahedral structure because it has.
- A. One lone pair  
C. Two lone pairs  
B. Three lone pairs  
D. No lone pairs

42. According to Arrhenius, acid is the substance which in aqueous medium gives.....
- A. H<sup>+</sup>                                      B. OH<sup>-</sup>
- C. Ch<sup>-</sup>                                        D. O<sup>-</sup>
43. Which of the following compounds is not aromatic?
- A. Naphthalene                              B.Benzene
- C. Phenol                                     D.Cyclohexane
44. Crude oil can be transferred in to petrol
- A. Filtration                                  B. Sedimentation
- C. Distillation                                D. Reduction
45. The colour change property of an acid base indicator depends on .....
- A. pH of the solution
- B. Structural rearrangement
- C. Ionization of indicator
- D. All of the above
46. Pearson's principle states .....
- A. Hard acids prefer borderline bases
- B. Hard acids prefer soft bases
- C. Soft prefers to bind borderline
- D. Hard acids prefer hard bases and soft acids prefer soft bases.
47. In flame photometry the measurement of..... is used for quantitative analysis.
- A. wavelength                                B. Intensity
- C. Velocity                                      D. Frequency

- 8



55. Typhus fevers disease caused by ..... that are spread to humans by fleas, lice, and chiggers.
- A. bacteria  
B. fungus  
C. Virus  
D. all of the above
56. The process by which DNA is copied to RNA is called .....
- A. Translation  
B. Transcription  
C. Translocation  
D. all of the above
57. A cell that is able to develop into an organism .....
- A. Totipotency  
B. Pleurepotency  
C. Multipotency  
D. Unipotency
58. Animals that have had their DNA manipulated to possess and express an extra (Foreign) gene are known as .....
- A. Animals  
B. Transgenic animals  
C. Infected animals  
D. Bt animals
59. Standard deviation is the square of .....
- A. Mode  
B. Variance  
C. Standard error  
D. Correlation
60. The malaria pathogens are transmitted by which mosquito?
- A. Male anopheles.  
B. Female anopheles  
C. Male Aedes  
D. Female Aedes
61. .... constituents are maximum content in pure honey.
- A. Levulose  
B. Maltose  
C. Dextrose  
D. Ash

62. Housefly lays eggs on decaying organic matter and hatched into legless ....

- A. larvae
- B. Nymphs
- C. Maggots
- D. grubs

63. Pearl is secreted by the ..... of the pearl oyster.

- A. Foot
- B. Mantle
- C. Gills
- D. Shell

64. If the value of correlation coefficient is positive, then the points in a scatter diagram tend to cluster .....

- A. From lower left corner to upper right corner
- B. From lower left corner to lower right corner
- C. From lower right corner to upper left corner
- D. From lower right corner to upper right corner

65. Which of the following vitamin is transformed from golden rice?

- A. Vitamin A
- B. Vitamin C
- C. Vitamin 12
- D. Vitamin D

66. The origin of Holstein Friesian cow breed is .....

- A. North Holland
- B. Scotland
- C. England
- D. Switzerland

67. Induced breeding technique is carried out in fish by injecting.....

- A. Pituitary gland extracts
- B. Both a and b
- C. Ovarian
- D. None of the above

68. The development of a male bee (Drone) takes ..... Days

- A. 16 days
- B. 19 days
- C. 22 days
- D. 24 days

69. The growth and proliferation of animal cells in vitro in a suitable culture medium is called .....
- A. Gene expression                      B. Transgenesis  
C. Plant tissue culture                D. Animal cell culture
70. Embryonic stem cells are derived from .....
- A. Undifferentiated inner cell mass of embryo  
B. Differentiated inner cell mass of embryo  
C. Undifferentiated trophoblast cells  
D. Differentiated trophoblast cells
71. Antibodies are classified in to ..... groups.
- A. two                                      B. three  
C. four                                     D. five
72. The IgG antibody molecule is made up of .....polypeptide chains.
- A. two                                      B. three  
C. four                                     D. five
73. .... is the process of formation of organs from three germ layers.
- A. Oogenesis                            B. Cleavage  
C. Organogenesis                      D. Gastrulation
74. .... immunity produces antigen-specific antibodies.
- A. Humoral                                B. Cell mediated  
C. both a and b                        D. None of the above

75. Organs and tissues important to the proper functioning of the immune system include the .....
- A. thymus  
B. lymph nodes  
C. spleen  
D. all of the above
76. Which one is the heaviest particulate component of the cell?
- A. Nucleus  
B. Mitochondria  
C. Cytoplasm  
D. Golgi apparatus
77. Which one is the largest particulate of the cytoplasm?
- A. Lysosomes  
B. Mitochondria  
C. Golgi apparatus  
D. Endoplasmic reticulum
78. The degradative processes are categorized under the heading of.....
- A. Anabolism  
B. Catabolism  
C. Metabolism  
D. None of the above
79. The phenomenon of osmosis is opposite to that of.....
- A. Diffusion  
B. Effusion  
C. Affusion  
D. Coagulation
80. The most active site of protein synthesis is the .....
- A. Nucleus  
B. Ribosome  
C. Mitochondrion  
D. Cell sap
81. From the biological viewpoint, solutions can be grouped into.....
- A. Isotonic solution  
B. Hypotonic solutions  
C. Hypertonic solution  
D. All of these

82. Polysaccharides are.....

- |             |          |
|-------------|----------|
| A. Polymers | B. Acids |
| C. Proteins | D. Oils  |

83. A sugar alcohol is.....

- |             |              |
|-------------|--------------|
| A. Mannitol | B. Trehalose |
| C. Xylulose | D. Arabinos  |

84. A common example of stem tuber is.....

- |           |           |
|-----------|-----------|
| A. Ginger | B. Garlic |
| C. Onion  | D. Potato |

85. External agencies are not required in.....

- A. natural vegetative propagation
- B. sexual reproduction
- C. bisexual reproduction
- D. trisexual reproduction

86. The enzyme catalase is found in .....

- |                 |                |
|-----------------|----------------|
| A. Peroxisomes  | B. Glyoxysomes |
| C. Mitochondria | D. Lysosomes   |

87. Energy supplied to metabolic processes of the cell is supplied by .....  
molecules

- |          |            |
|----------|------------|
| A. AMP   | B. ATP     |
| C. Sugar | D. Protein |

88. DNA doubles during .....

- |               |              |
|---------------|--------------|
| A. Interphase | B. Anaphase  |
| C. Prophase   | D. Telophase |

89. Wind is important..... factor.

- A. Edaphic                      B. Biotic  
C. Climatic                     D. Physiographic

90. The study of soil science is called .....

- A. Ecology                      B. Pedology  
C. Phycology                  D. Mycology

91. Manoxylic wood is characteristic of .....

- A. Coniferales                      B. Gnetales  
C. Cycadales                        D. Saginellales

92. When seed germinates ..... grows vertically to form shoot system

- A. Radicle                      B. Hypocotyls region  
C. Plumule                     D. Tuber

93. The ability of a pathogen to cause disease is .....

- A. Pathogenesis                      B. Pathogenicity  
C. pathovar                          D. Parasexualism

94. Cell theory was given by ..... and Schwann.

- A. Schleiden                      B. Morgan  
C. Mendel                         D. Watson

95. .... is prokaryotic cell.

- A. Pteridophyte  
B. Bryophyte  
C. Bacterium  
D. Angiosperm

96. The cross of F1 individual with its homozygous recessive parent is called.....

- A. back cross  
B. Test cross  
C. reciprocal cross  
D. self-cross

97. Alleles are.....

- A. alternate forms of genes
- B. chromosomes that have crossed over
- C. Linked genes
- D. homologous chromosome

98. BLAST is.....

- A. Basic Local Alignment Tool
- C. Basic Legal Alignment Tool
- B. Basic Local Assignment Tool
- D. Basic Local Assessment Tool

99. Which is the fungus causes blast discase on rice?

- |                      |                     |
|----------------------|---------------------|
| A. Pyriculariaoryzae | B. Cercosporaoryzae |
| C. Alternariaoryzae  | D. Fusarium oryzae  |

100. Water blooms are formed by .....

- |                   |                     |
|-------------------|---------------------|
| A. Lemna          | B. Hydrilla         |
| C. Water hyacinth | D. Planktonic algae |



**Rough**