

Seat No.
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Total No. of Pages : 24

**P. G. Re Entrance Examination, 2024**  
**M.Sc. Agro Chemicals and Pest Management**  
**Subject Code : 58726**

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**Day and Date : Friday, 28-Jun-2024****Total Marks : 100****Time : 04.30 pm to 06.00 pm**

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**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 question paper.
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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.  $\text{CHCl}_3$
  - 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. 100-200mm

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 NH | B. Liquid SO   |
| 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. Aluminum isopropoxide in isopropanol
27. Concept of superconductivity was introduced by .....
- A. Pauling
  - B. Hund
  - C. H. bethe
  - D. Kammerling onnes
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 as .....
- 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      | B. Slow            |
| C. Very fast | D. Moderately fast |
36. Cyclo-octane is
- |                 |                   |
|-----------------|-------------------|
| A. Aromatic     | B. Anti-aromatic  |
| C. Non aromatic | D. Pseudoaromatic |



37. Aldol condensation is carried out in presence of.....
- A. Mild or dilute alkali
  - B. Dilute acid
  - C. Concentrated alkali
  - D.  $AlCl_3$
38. Fermentation is called anacrobic process because it occurs in.....
- A. Presence of  $CO_2$
  - B. Absences of  $CO_2$
  - C. Presence of  $O_2$
  - D. Absences of  $O_2$
39. Witting reaction is used to convert carbonyl compound into.....
- A. Ester
  - B. Amine
  - C. Olefin
  - 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
  - B. Three lone pairs
  - C. Two lone pairs
  - D. No lone pairs



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
48. Pheromone is secreted by .....mouth in lepidopteron insects.
- A. Male
  - B. Female
  - C. Both above
  - D. None above
49. Soft metal adsorbs ..... Bases.
- A. Hard
  - B. Soft
  - C. Borderline
  - D. Both hard and soft
50. o-Nitrophenol is separated from p-nitrophenol from the reaction mixture.....
- A. Azeotropic Distillation
  - B. Steam Distillation
  - C. Fractional Distillation
  - D. Distillation Distillation.

51. The house fly belong to the order .....  

A. Lepidoptera

B. Coleoptera

C. Diptera

D. Orthoptera
52. Which of the following organism respire through gills?  

A. Silver fish

B. Fish

C. Frog

D. Starfish
53. Which of the following are hard epidermal derivatives?  

A. Nail

B. Sweat glands

C. Hair follicle

D. Sebaceous glands
54. Which of the following is not digestive gland?  

A. Salivary glands

B. Gastric glands

C. Intestinal glands

D. Sebaceous glands
55. Typhus fevers disease caused by ..... chiggers. that are spread to humans by fleas, lice, and  

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 extraets.

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



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 disease on rice?

A. *Pyricularia oryzae*

B. *Cercospora oryzae*

C. *Alternaria oryzae*

D. *Fusarium oryzae*

100. Water blooms are formed by

A. *Lemna*

B. *Hydrilla*

C. Water hyacinth

D. Planktonic algae

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**ROUGH WORK**

