

Seat No.	
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P.G. Entrance Examination, July - 2023**M.Sc. AGRO CHEMICALS AND PEST MANAGEMENT****Sub.Code : 58726****Day and Date : Tuesday, 18-07-2023****Total Marks : 100****Time : 3.30 p.m. to 5.00 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 question paper.

- 1) Internal reference used in NMR is_____.

A) CHCl_3	B) Ethyl acetate
C) Acetone	D) Tetra-methyl silane

- 2) 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

- 3) Methyl orange is a_____.

A) Triphenyl methane dye	B) Quinone dye
C) Azodye	D) Nitro dye

- 4) The starting materials for polyamide fiber is_____.

A) Phenol and formaldehyde	B) Adipic acid & Hexamine
C) Dimethyl terephthalate and ethylene glycol	D) Hexamine & ethylene glycol

- 5) Endosulphan is used as a _____.
- A) Insecticide B) Herbicide
C) Plant growth regulator D) Fumigant
- 6) Which of the following compounds shows a singlet, triplet and quartet in NMR?
- A) Acetone B) Ethyl benzoate
C) Ethyl methyl ketone D) Ethanol
- 7) In UV the wavelength of absorption _____.
- A) 200-400nm B) 100-200nm
C) 400-800nm D) All the above
- 8) The carbaryl is a _____.
- A) Carbamate Insecticide B) Insecticide
C) Organophosphorus insecticide D) Pyrethroid
- 9) NMR spectra are observed in _____ region.
- A) Radiofrequency B) UV-Visible
C) Microwave D) X-ray
- 10) Which of the following compounds is not aromatic?
- A) Naphthalene B) Benzene
C) Phenol D) Cyclohexane
- 11) Rectified spirit contains _____.
- A) 70% ethanol B) 96% ethanol
C) 90% ethanol D) 100% ethanol

- 12) Indolacetic acid is a_____.
- A) Plant growth regulator B) Herbicide
C) Insecticide D) Fungicide
- 13) Cyclo-octane is_____.
- A) Aromatic B) Non-aromatic
C) Anti-aromatic D) Pseudoaromatic
- 14) Chemical name of washing soda is_____.
- A) Sodium carbonates
B) Sodium hydrogen carbonates
C) Sodium chloride
D) Sodium hydroxide
- 15) Universal solvent is_____.
- A) Liquid NH_3 B) Water
C) Liquid SO_2 D) Acetic acid
- 16) Pure metallic solids are_____.
- A) super conductors B) semiconductors
C) good conductors D) insulators
- 17) Bonding in metals is best explained by_____.
- A) valence bond theory B) ligand field theory
C) crystal field theory D) molecular orbital theory

- 18) MIC is required for the synthesis of_____.
- A) IAA
B) Monocrotophos
C) Carbaryl
D) Endosulfan
- 19) Ammonia is used in bulk for the production of_____.
- A) Food items
B) Fertilizer
C) Soap
D) Pesticides
- 20) The distance between the centers of the peaks of doublet is called as?
- A) Coupling constant
B) Spin-spin coupling
C) Spin constant
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) Penicillin-G
C) Paludrine
D) Sulpha drugs
- 23) Which of the following liquids forms completely soluble mixture?
- A) phenol and water
B) ethanol and water
C) benzene and water
D) all of the above
- 24) During photosynthesis_____acts as photosensitizer.
- A) Chlorophyll
B) Water
C) Carbon dioxide
D) Glucose
- 25) The wave number of a transition is 2000 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) LiAlH_4
 - B) ZnCl_2
 - C) Pd/BaSO_4
 - 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) semiconductor
 - C) superconductor
 - D) insulator
- 30) Crude oil can be transferred in to petrol by_____.
- A) Filtration
 - B) Distillation
 - C) Sedimentation
 - 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) appreciable overlap
 C) same symmetry D) all of these
- 33) According to HSAB concept_____is soft acid.
- A) Li^+ B) Ni^{2+}
 C) Hg^{2+} D) Mg^{2+}
- 34) Soft-soft interaction produces_____compounds.
- A) Covalent B) Ionic
 C) Non-metallic D) Metallic
- 35) Rate determining step in 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) Concentrated alkali
 C) Dilute acid D) AlCl_3
- 38) Fermentation is called anaerobic process because it occurs in_____.
- A) Presence of CO_2 B) Presence of O_2
 C) Absences of CO_2 D) Absences of O_2

- 45) The colour change property of an acid base indicator depends on_____.
A) pH of the solution
B) ionization of indicator
C) structural rearrangement
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
- 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) Fractional Distillation
C) Steam 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_____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) Male aedes
C) Female anopheles
D) Female aedes
- 61) _____constituents are maximum 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

- 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) Golgi apparatus
C) Mitochondria
D) Endoplasmic reticulum
- 78) The degradative Processes are categorized under the heading of_____.
A) Anabolism
B) Metabolism
C) Catabolism
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) Hypertonic solution
C) Hypotonic solutions 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) bisexual reproduction
C) sexual 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 | B) Basic Local Assignment Tool |
| C) Basic Legal Alignment Tool | D) Basic Local Assessment Tool |
- 99) Which is the fungus causes blast disease on rice?
- | | |
|------------------------------|-----------------------------|
| A) <i>Pyricularia oryzae</i> | B) <i>Cercospora oryzae</i> |
| C) <i>Alternaria oryzae</i> | D) <i>Fusarium oryzae</i> |
- 100) Water blooms are formed by_____.
- | | |
|-------------------|---------------------|
| A) <i>Lemna</i> | B) <i>Hydrilla</i> |
| C) Water hyacinth | D) Planktonic algae |



Rough Work