

Seat No.	
-------------	--

M.Phil./Ph.D. Entrance Examination, September - 2022**AGROCHEMICALS AND PEST MANAGEMENT****Sub. Code: 58803****Day and Date : Thursday, 22- 09 - 2022****Total Marks : 100****Time : 10.00 a.m. to 12.00 Noon**

- Instructions :**
- 1) All questions are compulsory.
 - 2) Each question carries 2 marks.
 - 3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
 - 4) Use black ball point pen only for marking the circle. Do not make any stray mark on the OMR Answer Sheet.
 - 5) Follow the instructions given on OMR Sheet.
 - 6) Rough work shall be done on the sheet provided at the end of question paper.
 - 7) Only non-programmable calculators are allowed.

- 1) What is the name of the conceptual framework in which the research is carried out?
 - A) Research hypothesis
 - B) Synopsis of Research
 - C) Research paradigm
 - D) Research design
- 2) Which of the following features are considered as critical in qualitative research?
 - A) Collecting data with the help of standardized research tools
 - B) Design sampling with probability sample techniques
 - C) Collecting data with bottom-up empirical evidence
 - D) Gathering data with top-down schematic evidence.

P.T.O.

- 3) How is random sampling helpful?
 - A) Reasonably accurate
 - B) An economical method of data collection
 - C) Free from personal biases
 - D) All of the above
- 4) In order to pursue the research, which of the following is priority required?
 - A) Developing a research design
 - B) Formulating a research question
 - C) Deciding about the data analysis procedure
 - D) Formulating a research hypothesis
- 5) The format of thesis writing is the same as in
 - A) Writing of Seminar representation
 - B) Preparation of research paper/article
 - C) A research dissertation
 - D) Presenting a workshop/conference paper
- 6) Which of the following options are the main tasks of research in modern society?
 - A) To learn new things
 - B) To keep pace with the advancement in knowledge
 - C) To systematically examine and critically analyze the investigations/sources with the objective
 - D) All of the above
- 7) In the process of conducting research 'Formulation of Hypothesis' is followed by
 - A) Statement of Objectives
 - B) Analysis of Data
 - C) Selection of Research Tools
 - D) Collection of Data

- 8) Final stage in the Research Process is
- A) Problem formulation
 - B) Data collection
 - C) Data Analysis
 - D) Report Writing
- 9) A comprehensive full Report of the research process is called
- A) Thesis
 - B) Summary Report
 - C) Abstract
 - D) Article
- 10) Why in the IR spectrum of Benzoyl chloride, a weak band near 1750 cm^{-1} is formed?
- A) Inductive effect
 - B) Fermi resonance between $\text{C}=\text{O}$ band and first overtone
 - C) Conjugation effect
 - D) Hyperconjugation effect
- 11) In fluorescence spectroscopy, molecular transition occurs from
- A) Singlet ground state to singlet excited state
 - B) Singlet excited state to singlet ground state
 - C) Singlet excited state to triplet state
 - D) None
- 12) In reversed phase HPLC, there is a_____.
- A) non polar solvent/polar column
 - B) polar solvent/non-polar column
 - C) non polar solvent/non-polar
 - D) none

- 13) Which of the following used as source NMR spectra?
- A) Radio wave
 - B) UV radiation
 - C) UV radiation
 - D) All
- 14) Chromatography is a physical method that is used to separate and analyses _____.
_____.
- A) Simple mixtures
 - B) Complex mixtures
 - C) Viscous mixtures
 - D) Metals
- 15) Ammonium nitrate (a fertiliser) is coated with limestone powder to_____.
- A) Increase its nitrogen content
 - B) Cut down its production cost
 - C) Avoid the risk of explosion
 - D) Add extra nutrient as fertiliser
- 16) Which of the following is the function of the chopper in Atomic Absorption Spectroscopy?
- A) To split the beam into two
 - B) To break the steady light into a pulsating light
 - C) To filter unwanted components
 - D) To reduce the sample into atomic state
- 17) The pyrethroids are characterized due to the presence of_____.
- A) Cyclopropane ring
 - B) Cyclopropane ring and halogen
 - C) Cyclopropane ring and ester group
 - D) None of these

- 18) Phosphorus pentoxide is refluxed in methanol solvent to give_____.
- A) O, O dimethyl dithiophosphoric acid
 - B) O, O diethyl phosphoric acid
 - C) Both A and B
 - D) None of the above
- 19) Pyrethrin found in extract of _____.
- A) Chrysanthemum cinerariaefolium
 - B) Citrullus vulgaris
 - C) Cajanus cajan
 - D) Capsicum frutescence
- 20) The main functional group of carbamate pesticide is_____.
- A) Alpha naphthol
 - B) Aryl esters
 - C) Alkyl isocyanate
 - D) All above
- 21) The compounds which give rise to synthon are known as_____.
- A) Umpolung
 - B) Synthetic equivalence
 - C) Target molecule
 - D) All of these
- 22) Which of the following is Plant growth regulator?
- A) PCNB
 - B) Fenvelarate
 - C) Dicofol
 - D) Indole acetic acid

- 23) Sorghum shoot fly is pupating at_____.
- A) soil
 - B) dead shoots
 - C) both A and B
 - D) leaf
- 24) The pink borer is_____ pests.
- A) Monophagous
 - B) Polyphagous
 - C) Both A and B
 - D) None of the above
- 25) Which of the following is major host plant of *Spodoptera frugiperda*?
- A) Wheat
 - B) Rice
 - C) Sugarcane
 - D) Maize
- 26) Which of the following is the natural enemy of mustard aphid?
- A) Silverfish
 - B) Rhinoceros beetle
 - C) Ladybird beetle
 - D) All of the above
- 27) The insect diamond back moth (DBM) is a pest of_____.
- A) Cabbage
 - B) Spinach
 - C) Brinjal
 - D) Colacacea

- 28) Which of the following insect showing polymorphism?
- A) House fly
 - B) Shoot fly
 - C) Mosquitoes
 - D) Termites
- 29) Which of the following population is more in an aphid colony?
- A) eggs
 - B) nymphs
 - C) wingless adults
 - D) winged adults
- 30) For the effective control of _____ yellow sticky traps are using.
- A) Whitefly
 - B) Cut worm
 - C) Castor borer
 - D) Brinjal fruit borer
- 31) Which of the following insect cause the hopper burn?
- A) Aphid
 - B) Jassid
 - C) Mealy bug
 - D) Thrips

- 32) Most commonly used biological control agent in sugarcane is_____.
- A) *Trichogramma chilonis*
 - B) *Campoletis chlorideae*
 - C) *Apanteles prudinae*
 - D) *Eriborus argenteopilosus*
- 33) Which of the following agricultural practice breaks the insect life cycle?
- A) Timely harvesting
 - B) Inter cropping
 - C) Crop rotation
 - D) Clipping of tops
- 34) Which of the following is the root lesion nematode?
- A) *H. avenae*
 - B) *P. thornei*
 - C) *M. naasi*
 - D) All of the above
- 35) _____ disease is transmitted by *Anopheles* mosquito.
- A) Dengue
 - B) Filariasis
 - C) Malaria
 - D) All of the above

- 36) Immature stage of housefly is known as_____.
- A) larvae
 - B) nymphs
 - C) grubs
 - D) maggots
- 37) Role of 'Single Stranded Binding' (SSB) protein in DNA replication is
- A) Separator Primer
 - B) Stabilizes Unwounded DNA
 - C) Prevents Supercoiling
 - D) None of above
- 38) Clover leaf model of tRNA was proposed by
- A) Nirenberg & Mathai
 - B) Okha
 - C) Robert Holley
 - D) H. G. Khurana
- 39) Prolonged inbreeding can lead to
- A) Increased Fertility
 - B) Natural Selection
 - C) Reduced Fertility
 - D) All of above
- 40) The location of sugarcane breeding institute is_____.
- A) Coimbatore, Tamil Nadu
 - B) Hyderabad, Andhra Pradesh
 - C) Kanpur
 - D) Uttar Pradesh

M/P ENT - 01

- 41) Which of the following weeds have been introduced in India from other countries along with plant materials?
- A) Argemone Mexicana
 - B) Eicchornea crassipes
 - C) Parthenium
 - D) All of above
- 42) When the probability is calculated on the basis of reasoning even before any trail or experiment it is called?
- A) Mathematical Probability
 - B) Apriority Probability
 - C) Both the above
 - D) None of these
- 43) Standard deviation:
- A) is the square root of variance
 - B) is measured using the unit of the variable C
 - C) is measured using the squared unit of the variable
 - D) has values generally comparable with the average value
- 44) The standard deviation is extremely useful in judging the representativeness of the _____.
- A) dispersion
 - B) mean
 - C) skewness
 - D) kurtosis
- 45) In plant tissue culture, what is term ORGANOGENESIS means?
- A) formation of callus culture
 - B) Formation of root and shoot from callus culture
 - C) genesis of plants
 - D) none of the above

- 46) The first human protein produced through recombinant DNA technology is
- A) Insulin
 - B) Interferon
 - C) Erythropoietin
 - D) ABA
- 47) In Bt Cotton, the Bt toxin present in plant tissue as protoxin is converted into active toxin due to_____.
- A) Alkaline pH of the insect gut
 - B) Acidic pH of the insect gut
 - C) Action of gut microorganism
 - D) Presence of conversion factors in insect gut
- 48) Which of the following Bt crops is being grown in India by the farmers?
- A) Brinjal
 - B) Soybean
 - C) Maize
 - D) Cotton
- 49) Which of the following is an amino acid?
- A) Serine
 - B) Glycine
 - C) Alanine
 - D) Proline
- 50) Polarographic cells are not sensitive to which of the following gases?
- A) Carbon monoxide
 - B) Carbon dioxide
 - C) Nitrous oxide
 - D) Oxygen



Rough Work