

Seat No.	
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M.Phil./Ph.D. Entrance Examination, October - 2021**AGROCHEMICALS AND PEST MANAGEMENT****Day and Date : Wednesday, 27 - 10 - 2021****Total Marks : 100****Time : 04.00 p.m. to 06.00 p.m.**

- Instructions :**
- 1) All questions are compulsory.
 - 2) Each question carries 2 mark.
 - 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 benefit is served by using subheadings?
 - A) They keep the material related to the major theme of the report
 - B) They keep the material in a meaningful order
 - C) They keep the material in a logical order
 - D) All of these
- 2) 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
- 3) A common test in research demands much priority on
 - A) Reliability
 - B) Usability
 - C) Objectivity
 - D) All of the above
- 4) What is deemed a good measure of the quality of a journal?
 - A) The OPAC factor
 - B) The influence factor
 - C) The intake factor
 - D) The impact factor

P.T.O.

- 5) The ideal model for a research report is:
A) what other students do B) the essay format
C) the journal article standard format D) a magazine article.
- 6) The main advantage of Fluorescence
A) Its sensitivity
B) Its compatibility with separation techniques
C) Its compatibility with most analytes
D) None of these
- 7) Which of the following is not a feature of carrier gas used in gas chromatography?
A) It must be chemically inert
B) It should be suitable for the detector employed
C) It should not be completely pure
D) It should be cheap
- 8) What must be done to the solid samples for it to be introduced into the column without using solid injection syringes in gas chromatography?
A) Introduced in hot-zone of the column
B) Dissolved in volatile liquids
C) Introduced using rotary sample valve
D) Introduced using sampling loops
- 9) Which of the following is not a Column-type Liquid chromatography?
A) Gel permeation B) Ion exchange
C) Liquid-solid D) Paper
- 10) Polarographic cells are not sensitive to which of the following gases?
A) Carbon monoxide B) Carbon dioxide
C) Nitrous oxide D) Oxygen
- 11) What is the wavelength range for UV spectrum of light?
A) 400 nm to 700 nm B) 700 nm to 1 mm
C) 0.01 nm to 10 nm D) 10 nm to 400 nm

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- 12) Which of the following main component of mass spectroscopy deal with resolving the ions into their characteristics mass components according to their mass-to-charge ratio?
A) Ion Source
B) Analyzer
C) Detector System
D) Analyzer tube
- 13) Which species of the following is used to bombard with the sample for which mass spectroscopy has been performed?
A) Alpha particles
B) Neutrons
C) Electrons
D) Protons
- 14) On which factors the vibrational stretching frequencies of diatomic molecule depend?
A) Force constant
B) Atomic population
C) Temperature
D) Magnetic field
- 15) Which of the following is not a component of the emission system in Flame photometer?
A) Burner
B) Atomiser
C) Fuel gases and their regulation
D) Chopper
- 16) Ammonium nitrate (a fertilizer) 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 fertilizer
- 17) Which of the following compound is an antibiotic?
A) Ibrufen
B) Chloromycetine
C) Sulphonamide
D) None of the above
- 18) Indol acetic acid is a
A) Plant growth regulator,
B) Insecticide
C) Herbicide
D) Fungicide
- 19) Haemoglobin contains which of the following element in its structure,
A) Mg
B) Fe
C) Na
D) Zn

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- 20) 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
- 21) Methyl orange is a
A) Triphenyl methane dye
B) Azodye
C) Quinone dye
D) Nitro dye
- 22) pH of 0.1M HCl is,
A) 1
B) 10
C) 13
D) 6
- 23) Pyrethroids are used in agriculture because
A) They are less toxic to mammals
B) Their quick knock-down action on insect
C) Small quantity is required for action on insects
D) All the above
- 24) Tobacco contains which of the following chemicals
A) Citral
B) Alpha-terpeneol
C) Rotenone
D) Nicotine
- 25) Endosulphan is used as a,
A) Insecticide
B) Plant growth regulator
C) Herbicide
D) Fumigant
- 26) The reddish discoloration in sugarcane is the characteristic symptom of?
A) Red rot
B) Sett rot
C) Rust
D) Wilt
- 27) Wheat rust is considered as..?
A) Endemic disease
B) Pandemic
C) Epidemic disease
D) Non of the above
- 28) The Bordeaux mixture was invented in..?
A) UK
B) France
C) Portugal
D) Sweden

- 29) Citrus greening disease mainly confined to –
 - A) North India
 - B) South India
 - C) East India
 - D) West India
- 30) Micrografting is used to produce plants free from –
 - A) Virus
 - B) RLO's
 - C) MLO's
 - D) Bacteria
- 31) Which is most recent widely used fungicide for the control of powdery mildew?
 - A) Calaxin
 - B) Sulphur dust
 - C) Dithan M-45
 - D) Apron SD-35
- 32) The ascus is a sexual fruit of ascomycetes having a globose shape but no ostile (opening) is known as –
 - A) Cleistothecia
 - B) Perithecia
 - C) Apothecia
 - D) All of these
- 33) Most widely used biocontrol agent is
 - A) *Pseudomonas fluorescense*
 - B) *P. putida*
 - C) *Bacillus subtilis*
 - D) *Clostridium*
- 34) Early blight of potato produces –
 - A) Conidia
 - B) Telia
 - C) Uredia
 - D) Acecia
- 35) Nematicides inhibits which enzyme of nervous system in killing of nematodes –
 - A) Kinase
 - B) Isomerase
 - C) Phosphatase
 - D) Acetyl cholinesterase
- 36) Which of the following is used as a biocontrol agent against caterpillars of butterflies?
 - A) *Trichoderma*
 - B) *Streptococcus*
 - C) *Bacillus thuringiensis*
 - D) *Saccharomyces cerevisiae*

- 37) This is a third-generation pesticide.
- A) Pheromones
 - B) Pathogens
 - C) Carbamates and organophosphates
 - D) Insect repellants
- 38) Which of the following immunity is obtained during a lifetime?
- A) Acquired immunity
 - B) Active immunity
 - C) Passive immunity
 - D) None of the above
- 39) Interferons are
- A) Cytokine barriers
 - B) Physical barriers
 - C) Cellular barriers
 - D) Physiological barriers
- 40) Name the enzyme which has silenced to delay the ripening process?
- A) Polygalacturonase
 - B) Glyphosate
 - C) ADA
 - D) P53
- 41) Which of the following gene detoxify herbicide bronoxynil?
- A) Nitrilase
 - B) Glutathione S-transferase (GST)
 - C) Phosphinothricin acetyl transferase
 - D) All of these
- 42) Resistance to glyphosphate in transgenic petunia plants has been developed by the transfer of
- A) gene for EPSPS(5-enol-pyruvyl shikimat 3 phosphate synthase)
 - B) gene for ALS (acetolactate synthase)
 - C) gene for GS (glutamine synthase)
 - D) any of the above
- 43) *Bacillus thuringiensis* is a _____.
- A) water
 - B) hot springs
 - C) soil bacterium
 - D) space bacterium

- 44) Name the first transgenic virus resistant plant?
A) Rice
B) Cotton
C) Tobacco
D) Tomato
- 45) Which of the following is best suited method for production of virus free plants
A) embryo culture
B) meristem culture
C) ovule culture
D) anther culture
- 46) The variation in invitro culture is called as
A) invitro variation
B) mutation
C) somaclonal variation
D) all of these
- 47) A plasmid consisting of its own DNA with a foreign DNA inserted into it is called
A) recombinant DNA
B) non-coding DNA
C) junk DNA
D) none of the above
- 48) When maintaining the microscope, which is NOT an essential step?
A) Clean off grease and spills
B) Blow away dust
C) Oil the mechanics and moving parts
D) Wash the base and arm
- 49) What device is used to test the optics of the high-power lens
A) Stage magnometer
B) Stage micrometer
C) Haemocytometer
D) Glass slide
- 50) In which type of chromatography the stationary phase held in a narrow tube and mobile phase is forced through it under pressure?
A) Column chromatography
B) Planar chromatography
C) Liquid chromatography
D) Gas chromatography



Rough Work