ICAR AIEEA PG ENTOMOLOGY 2024 Question Paper

Time Allowed :2 hours	**Maximum Marks :**120	**Total Questions :**120

1. In photosynthesis, OEC stands for

(1) Oxygen evolving complex

(2) Oxygen emitting complex

(3) Oxygen ectoplasm complex

(4) Outer ectoplasm complex

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2. A double stranded DNA has 30% Thymine. The percentage of cytosine is

(1) 30%

(2) 70%

(3) 20%

(4) 15%

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3. Match List-I with List-II

List-I	**Locust**	**List-II** Scientific names
(A)	Bombay locust	(I) *Cyrtacanthacris tatarica*
(B)	Brown locust	(II) *Chortoicetes terminifera*
(C)	Australian locust	(III) *Locusta pradalina*
(D)	Rocky mountain locust	(IV) *Melanoplus spretus*

(1) A-(I), B-(II), C-(III), D-(IV)

(2) A-(III), B-(I), C-(IV), D-(II)

(3) A-(I), B-(III), C-(II), D-(IV)

(4) A-(I), B-(II), C-(IV), D-(III)

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4. Given below are two statements:

Statement (I): Development of an organism from a cell in culture medium is known as Totipotency.

Statement (II): Development of a fruit from flower in a culture medium is known as Totipotency.

Choose the most appropriate answer:

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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5. Small adhesive pads on the tarsomeres in cockroach are known as:

(1) Plantulae

(2) Arolium

(3) Trochanter

(4) Tibia

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6. *Tylenchulus semipenetrans* can be managed by using trifoliate orange as a:

(A) Root-stock

(B) Biofumigant

(C) Donor parent in hybrid production

(D) Trap crop

Choose the correct answer from the options given below:

(1) (A) and (B) only

(2) (B) and (D) only

(3) (A), (B) and (C) only

(4) (A) and (C) only

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7. Japan has lifted its two-decade ban in 2006 on the import of Indian mangoes on the condition they are subjected to:

(1) Hot water treatment

(2) Irradiation

(3) Vapour heat treatment

(4) Fumigation

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8. Match List-I with List-II

List-I	**Book/Theory proposed/Characteristic, etc.**	**List-II** Author/Thinker/Name of Theory, etc
(A)	Royal Commission on Agriculture	(I) 1943
(B)	Bengal Famine	(II) 1928
(C)	Grow more food enquiry committee	(III) 2006
(D)	MGNREGA	(IV) 1952

(1) A-(II), B-(I), C-(III), D-(IV)

(2) A-(II), B-(I), C-(IV), D-(III)

(3) A-(IV), B-(II), C-(I), D-(III)

(4) A-(III), B-(IV), C-(II), D-(I)

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9. Insect glands responsible for lubrication of mouthparts are/is:

(1) Maxillary gland

(2) Pharyngeal gland

(3) Salivary gland

(4) Mandibular gland

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10. Match List-I with List-II

List-I	Category	List-II Crop
A	Cereals	(I) Potato
B	Semi-perishables	(II) Rice
C	Oilseeds	(III) Maize
D	Coarse grains	(IV) Safflower

(1) A-I, B-II, C-III, D-IV

(2) A-II, B-I, C-IV, D-III

(3) A-IV, B-III, C-II, D-I

(4) A-III, B-II, C-I, D-V

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11. Grooves with a purely functional origin in insects is called:

(1) Sulci

(2) Membrane

(3) Pit

(4) Crack

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12. Given below are two statements:

Statement (I): Plumose antennae are present in female mosquito.

Statement (II): Pilose antennae are present in male mosquito.

Choose the most appropriate answer from the options given below:

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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13. The connecting link between Orthopteroid and Hemipteroid insects is order:

(1) Psocoptera

(2) Phthiraptera

(3) Zoraptera

(4) Mecoptera

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14. An outer limiting membrane and a central pool of mitochondrial components in the spermatid is known as:

(1) Nebenkern

(2) Acrosome

(3) Lattice

(4) Filament

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15. Match List-I with List-II

List-I	**Family**	**List-II** Character
(A)	Tettigoniidae	(I) Trapezoidal forewings
(B)	Membracidae	(II) Pronounced rostrum with geniculate antenna
(C)	Curculionidae	(III) Pronotum prominent, elevated hood like
(D)	Gelechiidae	(IV) Ovipositor longer than body

(1) A-(IV), B-(III), C-(II), D-(I)

(2) A-(II), B-(I), C-(IV), D-(III)

(3) A-(I), B-(III), C-(II), D-(IV)

(4) A-(III), B-(IV), C-(I), D-(II)

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16. Match List-I with List-II

List-I	**Organism**	**List-II** Type
(A)	Telenomus remus	(I) Fish
(B)	Gambusia affinis	(II) Toad
(C)	Bufo rana	(III) Bird
(D)	Acridotheres tristis	(IV) Parasitoid

(1) A-(IV), B-(I), C-(II), D-(III)

(2) A-(I), B-(III), C-(IV), D-(II)

(3) A-(III), B-(II), C-(I), D-(IV)

(4) A-(II), B-(IV), C-(I), D-(III)

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17. If the acute dermal median lethal dose (LD_{50}) of an insect is 50 mg/kg, then:

(1) 50 test insects can be killed with 50 mg of toxin

(2) One test insect can be killed with 50 mg of the toxin

(3) 50% of test insect can be killed with 50 mg of the toxin

(4) 50% of test insect will be killed in 50 minutes by 50 mg of the toxin

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18. Given below are two statements:

Statement (I): National Research Centre for Medicinal and Aromatic Plants is situated at Anand.

Statement (II): NRCMAP was upgraded as ICAR-Directorate of Medicinal and Aromatic Plants during the year 2010.

Choose the most appropriate answer from the options given below:

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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19. Match List-I with List-II

List-I	**Institution**	**List-II** Location
(A)	Imperial Bacterial Laboratory	(I) Pusa, Bihar
(B)	Agricultural Research Institute	(II) Pune, Maharashtra
(C)	Central Food Technological Res. Inst.	(III) Mysore, Karnataka
(D)	Indian Council of Agricultural Research	(IV) New Delhi

(1) A-(I), B-(II), C-(III), D-(IV)

(2) A-(IV), B-(I), C-(II), D-(III)

(3) A-(IV), B-(III), C-(II), D-(I)

(4) A-(III), B-(IV), C-(I), D-(II)

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20. Given below are two statements:

Statement (I): ICAR-National Research Centre on Mithun is in Medziphema

Statement (II): Mithun is a buffalo-like animal

Choose the most appropriate answer from the options given below:

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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21. A short mechanism that usually involves a short segment of DNA with remarkable capacity to move from one location in a chromosome to another is called:

(1) DNA Replication

(2) DNA Transposon

(3) DNA Hybridisation

(4) DNA Recombination

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22. The concept of "Green Revolution" in India was formulated during:

(1) First-Five Year Plan

(2) Second-Five Year Plan

(3) Third-Five Year Plan

(4) Fourth-Five Year Plan

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23. Nematodes enter the stage of 'lethargus' during:

(1) Quiescence

(2) Killing and fixing

(3) Molting

(4) Desiccation

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24. Given below are two statements:

Statement (I): Voltinism in insects is number of generations produced in a year.

Statement (II): *Morus alba* is a perennial tree in northern India.

Choose the most appropriate answer from the options given below:

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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25. One of Mendel's pure strains of pea plants had green peas. How many different types of progeny could such a plant produce with regard to pea colour?

(1) One

(2) Two

(3) Three

(4) Four

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26. The first KVK was established by ICAR at Puducherry in the year:

(1) 1968

(2) 1974

(3) 1996

(4) 1980

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27. Given below are two statements:

Statement (I): Tukra disease in mulberry is caused by whitefly.

Statement (II): Shellac is a resin secreted by female lac insect on host plant.

Choose the most appropriate answer from the options given below:

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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28. Formic acid is produced by:

(1) White ant

(2) Cockroach

(3) Red ant

(4) House fly

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29. FAO guidelines on establishment of pest free areas for fruit flies are dealt under:

(1) ISPM #8

(2) ISPM #16

(3) ISPM #26

(4) ISPM #30

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30. Parasitoid, *Aenasius phenacocci* (Hymenoptera) on cotton mealybug, *Phenacoccus solenopsis* is:

(1) Primary parasitoid

(2) Hyperparasitoid

(3) Gregarious parasitoid

(4) Adelpho parasitoid

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31. The phenomenon of offspring nematodes developing from unfertilized eggs happens in:

(1) Amphimixis

(2) Parthenogenesis

(3) Hermaphrodites

(4) Endotokía matricida

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32. Match List I with List II

List I		**List II**
(A)	Pyriproxyfen	(I) Sodium Channel Blocker
(B)	Chlorantraniliprole	(II) Acetyl cholinesterase inhibitor
(C)	Indoxacarb	(III) JH mimic
(D)	Propoxur	(IV) Calcium channel activator

(1) A-(III), B-(IV), C-(I), D-(II)

(2) A-(I), B-(III), C-(II), D-(IV)

(3) A-(IV), B-(I), C-(II), D-(III)

(4) A-(III), B-(II), C-(IV), D-(I)

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33. Given below are two statements:

Statement (I): Butterflies with erratic darting flights belong to family Hesperiidae.

Statement (II): Larvae with tapering at both ends without dorsal setae.

(1) Both Statement (I) and Statement (II) are true.

(2) Both Statement (I) and Statement (II) are false.

(3) Statement (I) is true but Statement (II) is false.

(4) Statement (I) is false but Statement (II) is true.

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34. Given below are two statements:

Statement (I): Bean yellow mosaic virus is transmitted by *Aphis glycines*.

Statement (II): Chilli mosaic virus is transmitted by *Aphis craccivora*.

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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35. Uzi fly is a serious pest of:

(1) Mulberry inflorescence

(2) Silk worm

(3) Horse

(4) Buffalo

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36. Needle nematodes are important vectors of:

(A) Raspberry ringspot virus

(B) Tomato black ring virus

(C) Arabis mosaic

(D) Broomgrass mosaic

Choose the correct answer:

(1) (A) and (D) only

(2) (B) and (D) only

(3) (A) and (C) only

(4) (A) and (B) only

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37. Which of the following is the Orthopteroid-Neopteran insect order?

(1) Neuroptera

(2) Mecoptera

(3) Coleoptera

(4) Plecoptera

38. What is the family of the Mango mealybug?

(1) Coccidae

(2) Flatidae

(3) Pseudococcidae

(4) Margarodidae

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39. Given below are two statements:

Statement (I): Virus transmission by whitefly is persistent and circulative type.

Statement (II): Virus transmission by hoppers is circulative and usually propagative type.

(1) Both Statement (I) and Statement (II) are true.

(2) Both Statement (I) and Statement (II) are false.

(3) Statement (I) is true but Statement (II) is false.

(4) Statement (I) is false but Statement (II) is true.

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40. The Müller's organ in insects is associated with:

(1) Olfaction

(2) Chemoreception

(3) Hearing

(4) Respiration

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41. The caudal sensory organ showing sexual dimorphism is associated with:

(1) Reproduction

(2) Excretion

(3) Secretion

(4) Movement

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42. The apparatus used for the extraction of cysts from soil is:

(1) Cobb's sieve

(2) Fenwick can

(3) Oostenbrink elutriator

(4) Baermann's funnel

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43. DIPA was passed by the Government of India in the year:

(1) 1946

(2) 1954

(3) 1914

(4) 1910

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44. Given below are two statements:

Statement (I): *Bacillus thuringiensis* is effective against the mosquito.

Statement (II): *Bacillus sphaericus* is effective against the mosquito.

(1) Both statements I and statement II are correct

(2) Both statements I and statement II are incorrect

(3) Statement I is correct and statement II is incorrect

(4) Statement I is incorrect and statement II is correct

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45. Given below are two statements:

Statement (I): Central Agricultural University is in Jorhat

Statement (II): Central Agricultural University is in Imphal

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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46. Match List-I with List-II

List-I		List-II
(A)	Handbook of Agriculture	(I) Academic Press Inc
(B)	Elements of Economic Entomology	(II) Brillion Publishing
(C)	Theory and Practice of Biological Control	(III) Westville Publishing House
(D)	Biological Pest Suppression	(IV) ICAR

(1) A-(I), B-(II), C-(III), D-(IV)

(2) A-(IV), B-(III), C-(I), D-(II)

(3) A-(III), B-(II), C-(IV), D-(I)

(4) A-(IV), B-(II), C-(I), D-(III)

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47. In Calvin cycle, Rubisco incorporates CO_2 into ribulose 1,5 bisphosphate which rapidly splits into:

(1) Glyceraldehyde 3-phosphate

(2) 2,3 phosphoglyceric acid

(3) 3 phosphoglycerate

(4) 1,3 diphosphoglycerate

---

48. Match List-I with List-II

List-I		List-II
(A)	Potyviridae	(I) Thrips
(B)	Tospovirus	(II) Whitefly
(C)	Badnavirus	(III) Aphids
(D)	Begomovirus	(IV) Mealybugs

(1) A-(I), B-(III), C-(II), D-(IV)

(2) A-(III), B-(I), C-(IV), D-(II)

(3) A-(IV), B-(II), C-(I), D-(III)

(4) A-(III), B-(I), C-(IV), D-(II)

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49. Match List-I with List-II

List-I		List-II
(A)	Abiotic resistance	(I) GM Maize (Corn borer)
(B)	Herbicide resistance	(II) Drought
(C)	Insect resistance	(III) GM Crop (Glyphosate)
(D)	Pathogen resistance	(IV) Cucumber Mosaic Virus

(1) A-IV, B-III, C-II, D-I

(2) A-II, B-III, C-I, D-IV

(3) A-III, B-IV, C-II, D-I

(4) A-II, B-V, C-III, D-I

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50. Carnivorous species which actively pursue their prey have:

(1) Prognathous mouthparts

(2) Hypognathous mouthparts

(3) Opisthognathous mouthparts

(4) Opisthorhynchous mouthparts

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51. Given below are two statements:

Statement (i): *Aedes aegypti* contains no anti-coagulant and the blood clots in the stomach within 15 minutes of feeding.

Statement (ii): *Aedes aegypti* contains an anti-coagulant which prevents the blood clots in the stomach within 15 minutes of feeding.

In light of the above statements, choose the *most appropriate* answer from the options given below.

(1) Both Statement (i) and Statement (ii) are correct.

(2) Both Statement (i) and Statement (ii) are incorrect.

(3) Statement (i) is correct but Statement (ii) is incorrect.

(4) Statement (i) is incorrect but Statement (ii) is correct.

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52. Match List-I with List-II

List-I	List-II
(A) Oak tasar silk worm	(I) Jharkhand
(B) Muga silk worm	(II) Uttarakhand
(C) Mulberry silk worm	(III) Assam
(D) Tropical tasar silkworm	(IV) Karnataka

(1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)

(2) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)

(3) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)

(4) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)

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53. The ”Begging Bowl” status in India with regards to chronic food shortage was referred during:

(1) 1940s

(2) 1950s

(3) 1960s

(4) 1970s

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54. Book lungs are the respiratory organs in:

(1) Mollusca

(2) Arachnida

(3) Silverfish

(4) Earthworm

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55. Given below are two statements:

Statement (I): Linkage was given by G. Mendel

Statement (II): Linkage was given by T.H. Morgan

In light of the above statements, choose the most appropriate answer from the options given below:

(1) Both Statement (I) and Statement (II) are correct.

(2) Both Statement (I) and Statement (II) are incorrect.

(3) Statement (I) is correct but Statement (II) is incorrect.

(4) Statement (I) is incorrect but Statement (II) is correct.

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56. Fungicide is obtained from:

(1) Amia

(2) Neem

(3) Sunflower

(4) Asparagus

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57. Peanut bud necrosis virus (PBND) is transmitted by:

(A) Aphis gossypii and Myzus persicee

(B) Aphis maydis and Toxoptera graminum

(C) Thrips palmi and Frankimella schultzei

(D) Planococcoides njalensis and Pentalonia nigronervosa

Choose the correct answer from the options given below:

(1) (A) and (B) only

(2) (B) and (D) only

(3) (C) only

(4) (A) and (D) only

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58. After hatching, the hatching of whitefly passes through:

(1) 2 nymphal instars

(2) 3 nymphal instars

(3) 4 nymphal instars

(4) 5 nymphal instars

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59. Match List-I with List-II

List-I	**List-II**
(A) Rugose spiralling whitefly	(I) Encarsia noyesi
(B) Spiralling whitefly	(II) Encarsia guadeloupae
(C) Silverleaf whitefly	(III) Encarsia inaron
(D) Coconut whitefly	(IV) Encarsia sophia

Choose the correct answer from the options given below.

(1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)

(2) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)

(3) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)

(4) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)

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60. Given below are two statements:

Statement (I): In Soyabean, generally, 75-80 kg/ha seed is recommended in kharif

Statement (II): For spring season soyabean crop, 100 kg/ha seed is recommended

In light of the above statements choose the most appropriate answer from the options given below.

(1) Both Statement (I) and Statement (II) are true.

(2) Both Statement (I) and Statement (II) are false.

(3) Statement (I) is true but Statement (II) is false.

(4) Statement (I) is false but Statement (II) is true.

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61. Insect cells housing the symbionts are known as:

(1) Mycetocytes

(2) Goblet cells

(3) Rectal cells

(4) Acinar cells

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62. Match List-I with List-II

List-I	List-II
(A) Acorus spp.	(I) Colchicine
(B) Neophobia	(II) Multiple dose poison
(C) Chemosterilant	(III) Sweet flag
(D) Tomafarin	(IV) Single dose poison

Choose the correct answer from the options given below.

(1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)

(2) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

(3) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

(4) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)

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63. Calvin cycle represents the phenomenon of:

(1) Oxidative Carboxylation

(2) Substrate Level Phosphorylation

(3) Dark Respiration

(4) Reductive Carboxylation

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64. The ETL for insect vectors in pest management is:

(A) 0%

(B) 0 to 0.5 %

(C) 1.0 to 1.5 %

(D) 2.0 to 2.5 %

Choose the correct answer from the options given below:

(1) (A) and (B) only

(2) (A) and (C) only

(3) (B) and (C) only

(4) (C) and (D) only

---

65. Aquatic insect family Sisyridae belongs to order:

(1) Neuroptera

(2) Hemiptera

(3) Plecoptera

(4) Strepsiptera

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66. Given below are two statements:

Statement (i): Stubby root nematode are also known as Longidorids

Statement (ii): Stubby root nematode are also known as Trichodorids

In light of the above statements, choose the most appropriate answer from the options given below.

(1) Both Statement (i) and Statement (ii) are correct

(2) Both Statement (i) and Statement (ii) are incorrect

(3) Statement (i) is correct but Statement (ii) is incorrect

(4) Statement (i) is incorrect but Statement (ii) is correct

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67. The size (mm) of a healthy adult Laccifer lacca ranges between:

(1) 0.5-1.0

(2) 0.6-1.5

(3) 2.0-3.0

(4) 4.0-5.0

---

68. Given below are two statements:

Statement (I): Mosquito blight of tea is caused by Helopeltis antonii

Statement (II): Mosquito blight of tea is caused by Heliothis zea

In light of the above statements choose the most appropriate answer from the options given below.

(1) Both statements I and statement II are correct

(2) Both statements I and statement II are incorrect

(3) Statement I is correct and statement II is incorrect

(4) Statement I is incorrect and statement II is correct

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69. The molecular phylogenetic analysis of Phylum Nematoda (De Ley and Blaxter, 2002) reveals the presence of these major sub-classes:

(A) Chromadoria

(B) Dorylaimia

(C) Rhabdita

(D) Enoplia

Choose the correct answer from the options given below.

(1) (A), (B) and (D) only

(2) (A), (B) and (C) only

(3) (A), (B), (C) and (D) only

(4) (B), (C) and (D) only

---

70. Given below are two statements:

Statement (I): Management of pesticide use is not an integral part of IPM

Statement (II): IPM is not to refine the pesticide application recommendations?

In light of the above statements, choose the most appropriate answer from the options given below.

(1) Both Statement (I) and Statement (II) are true

(2) Both Statement (I) and Statement (II) are false

(3) Statement (I) is true but Statement (II) is false

(4) Statement (I) is false but Statement (II) is true

---

71. Given below are two statements:

Statement (i): *Xiphinema* spp of nematodes is also known as Dagger nematodes

Statement (ii): *Xiphinema* spp of nematodes is also known as Lesion nematodes

In light of the above statements, choose the *most appropriate* answer from the options given below.

(1) Both Statement (i) and Statement (ii) are correct

(2) Both Statement (i) and Statement (ii) are incorrect

(3) Statement (i) is correct but Statement (ii) is incorrect

(4) Statement (i) is incorrect but Statement (ii) is correct

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72. When all the segments differentiate in the embryo, the development is:

(1) Pseudo

(2) Anamorphic

(3) Epimorphic

(4) Complete

---

73. Given below are two statements:

Statement (i): Tomato spotted wilt virus is not transmitted by *Thrips tabaci*

Statement (ii): Cucumber mosaic virus is transmitted by *Myzus persicae*

In light of the above statements, choose the most appropriate answer from the options given below.

(1) Both Statement (i) and Statement (ii) are correct

(2) Both Statement (i) and Statement (ii) are incorrect

(3) Statement (i) is correct but Statement (ii) is incorrect

(4) Statement (i) is incorrect but Statement (ii) is correct

---

74. Given below are two statements:

Statement (I): *Helminthosporium oryzae* was the causative agent for Irish Famine in 1845

Statement (II): *Helminthosporium oryzae* was the causative agent for Bengal Famine in 1943

In light of the above statements, choose the *most appropriate* answer from the options given below.

(1) Both Statement (I) and Statement (II) are correct

(2) Both Statement (I) and Statement (II) are incorrect

(3) Statement (I) is correct but Statement (II) is incorrect

(4) Statement (I) is incorrect but Statement (II) is correct

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75. The bulk fixation of carbon through photosynthesis takes place in:

(1) Crop plant and tropical rain forest

(2) Tropical rain forest

(3) Crop plants

(4) Oceans

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76. *Pareuchaetes pseudoinsulata* is a biocontrol agent of:

(1) Prickly pear

(2) Water fern

(3) Siam weed

(4) Crofton weed

---

77. Which one of the following is a micro element?

(1) Nitrogen

(2) Magnesium

(3) Sulphur

(4) Manganese

---

78. The 3^{rd} and 4^{th} stage juveniles of root-knot nematodes are:

(1) Feeding

(2) Non-feeding

(3) Quiescent

(4) Infective

79. *Bemisia tabaci* is commonly known as:

(1) Stable fly

(2) Warble fly

(3) Sweet potato whitefly

(4) Cluster fly

---

80. Among the entomopathogenic bio-agents which contribute the most in biopesticide market share in India?

(1) Bacteria

(2) Fungi

(3) Protozoa

(4) Virus

---

81. Predaceous insect which restrains its prey by sheer mechanical strength and then tears it to pieces with powerful mandibles is:

(1) Cockroach

(2) Grasshopper

(3) Mantis

(4) Predatory Mite

---

82. Bacterial plasmid contains:

(1) RNA

(2) DNA

(3) Proteins

(4) Histone proteins

---

83. Which of the followings belong to Poaceae family?

(A) Pearl millet, Rice and Wheat

(B) Foxtail, Barley and Sorghum

(C) Horsegram and Chia seeds

(D) Cotton and Okra

Choose the correct answer from the options given below:

(1) (A) and (B) only

(2) (B) and (C) only

(3) (C) and (D) only

(4) (B) and (D) only

---

84. Match List-I with List-II

List-I	**List-II**
(A) Cotton mirid	(I) *Creontiades biseratense*
(B) Sorghum earhead bug	(II) *Nezara viridula*
(C) Mung bean whitefly	(III) *Calocoris angustatus*
(D) Pentatomid bug	(IV) *Bemisia tabaci*

Choose the correct answer from the options given below.

(1) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)

(2) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

(3) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)

(4) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

---

85. Nematode-resistant germplasm PNR-7 is of:

(1) Tomato

(2) Guava

(3) Citrus

(4) Barley

---

86. Chloroplasts are disrupted and the stroma separated from the lamella. The isolated stroma will fix CO_2, if it is supplied with:

(1) ATP and NADPH

(2) Oxygen

(3) Light

(4) Carotenoid

---

87. Life stages of male *Laccifer lacca* are:

(A) Egg

(B) Larva

(C) Pupa

(D) Adult

Choose the correct answer from the options given below:

(1) (A), (B) and (C) only

(2) (B), (C) and (D) only

(3) (A), (C) and (D) only

(4) (A), (B), (C) and (D)

---

88. Plerostigmata is present on forewings of:

(A) Hymenoptera

(B) Psocoptera

(C) Megaloptera

(D) Mecoptera

Choose the correct answer from the options given below:

(1) (A) and (D) only

(2) (A), (B) and (D) only

(3) (A), (B), (C) and (D)

(4) (B), (C) and (D) only

---

89. Identify the correct sequence of chronology of establishment of following organizations:

(A) Entomological Society of India

(B) Bombay Natural History Society

(C) Indian Museum

(D) Zoological Survey of India

Choose the correct answer from the options given below:

(1) (A), (B), (C), (D)

(2) (D), (B), (C), (A)

(3) (C), (B), (A), (D)

(4) (B), (A), (D), (C)

---

90. Which of the followings pertain to Classical Biological Control?

(1) ISPM #2

(2) ISMP #3

(3) ISPM #3

(4) ISPM #5

---

91. Match List-I with List-II

List-I	**List-II**
(A) *Pisum sativum*	(I) Incomplete Dominance
(B) *Mirabilis jalapa*	(II) Model Organism
(C) *Neurospora*	(III) Mendel's Laws
(D) *Lathyrus odoratus*	(IV) Complementary Genes

Choose the correct answer from the options given below.

(1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)

(2) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)

(3) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)

(4) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)

---

92. Which one of the following animals come under the micro animals?

A. Squirrels

B. Beetles

C. Mice

D. Protozoa

Choose the correct answer from the options given below:

(1) (A) only

(2) (B) only

(3) (D) only

(4) (C) and (D)

---

93. Match List-I with List-II

List-I	**List-II**
(A) Pleuron	(I) Trochantin
(B) Tergum	(II) Eusternum
(C) Sternum	(III) Postnotum
(D) Legs	(IV) Epimeron

Choose the correct answer from the options given below:

(1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)

(2) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)

(3) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)

(4) (A)-(I), (B)-(IV), (C)-(II), (D)-(III)

---

94. Arthropods have a characteristic feature of:

(1) Cuticular exoskeleton

(2) Aerial mode of life

(3) Presence of wing venation

(4) Bright coloration

---

95. In gradual metamorphosis the young is known as:

(1) Nymph

(2) Naid

(3) Stadium

(4) Crawler

---

96. Given below are two statements:

Statement (i): Banana puree is used in dairy products and bakery

Statement (ii): Banana flour and banana beverages are not becoming popular.

In light of the above statements, choose the most appropriate answer from the options given below.

(1) Both Statement (i) and Statement (ii) are true

(2) Both Statement (i) and Statement (ii) are false

(3) Statement (i) is true but Statement (ii) is false

(4) Statement (i) is false but Statement (ii) is true

---

97. A segment of nematode species differing from the rest of the species in some physiological characteristic such as pathogenicity is called:

(1) Biotype

(2) Pathotype

(3) Race

(4) Pathovar

---

98. A stage-specific behavior in which an EPN (Entomopathogenic Nematode) stands on its tail and waves its head in three dimensions is called:

(1) Foraging

(2) Recovery

(3) Ambushing

(4) Nicitation

99. Which of the following countries is the largest producer of lac?

(1) China

(2) India

(3) Thailand

(4) Bhutan

---

100. Match List-I with List-II

List-I	**List-II**
(A) Nullisomy	(I) 2n+2
(B) Trisomy	(II) 2n+1
(C) Monosomy	(III) 2n-1
(D) Tetrasomy	(IV) 2n-2

Choose the correct answer from the options given below.

(1) (A)-(IV), (B)-(II), (C)-(III), (D)-(I)

(2) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)

(3) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

(4) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

---

101. Which of the followings pertain to Rice cultivars?

(A) Sona-Masuri and Kasturi

(B) Jaya and Kalinga

(C) K-68 and Radhey

(D) Swarna and Radhey

Choose the correct answer from the options given below.

(1) (A) and (B) only

(2) (B) and (C) only

(3) (C) and (D) only

(4) (A) and (C) only

102. Which of the following is Non-ester Pyrethroid?

(1) Etofenprox

(2) Allethrin

(3) Cypermethrin

(4) Deltamethrin

---

103. The shallow black soil dominates in which of the following States?

A. Madhya Pradesh

B. Maharashtra

C. Odisha

D. Tamil Nadu

Choose the correct answer from the options given below.

(1) (A) only

(2) (B) only

(3) (A) and (B) only

(4) (C) and (D) only

---

104. Which of the given gland is not found in male cockroach?

(A) Collateral gland

(B) Phallic gland

(C) Utricular gland

(D) Conglobate gland

Choose the correct answer from the options given below:

(1) (A) only

(2) (D) only

(3) (B), (C) and (D) only

(4) (A), (B), (C) and (D)

---

105. Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Biological species concept was introduced by Mayr

Reason (R): Biological species concept defines species as the group of interbreeding natural populations which are reproductively isolated from other such species

In light of the above statements, choose the most appropriate answer from the options given below.

(1) Both (A) and (R) are correct and (R) is the correct explanation of (A)

(2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A)

(3) (A) is correct but (R) is not correct

(4) (A) is not correct but (R) is correct

---

106. Mutual exchange of food in social insects is known as:

(1) Social Feeding

(2) Trophallaxis

(3) Preoral feeding

(4) Proctodaeal feeding

---

107. In photorespiration, glycolate and glyoxylate are produced sequentially in the following organelles:

(1) Chloroplasts and Mitochondria

(2) Chloroplasts and Peroxisome

(3) Peroxisome and Mitochondria

(4) Peroxisome and Chloroplast

---

108. Example of Root knot Nematode is:

(1) Meloidogyne

(2) Ascaris

(3) Trichinella

(4) Taenia

---

109. Given below are two statements:

Statement (i): A taxonomic character is a feature which is present in all appropriate specimens at appropriate time

Statement (ii): The taxonomic characters should not show wide variation among specimens

In light of the above statements choose the most appropriate answer from the options given below.

(1) Both Statement (i) and Statement (ii) are true

(2) Both Statement (i) and Statement (ii) are false

(3) Statement (i) is true but Statement (ii) is false

(4) Statement (i) is false but Statement (ii) is true

---

110. Which of the following fits the classical definition of an entomopathogenic nematode?

(A) Oscheius

(B) Romanomermis

(C) Heterorhabditis

(D) Deladenus

Choose the correct answer from the options given below:

(1) (A), (C) and (D) only

(2) (B), (C) and (D) only

(3) (C) and (D) only

(4) (A) and (C) only

---

111. Webbing of leaves, buds and flowers, bores into the pods and feeds on seeds are the damage symptoms of:

(1) Helicoverpa armigera

(2) Maruca vitrata

(3) Melanagromyza obtusa

(4) Exelastis atomosa

---

112. Match List-I with List-II:

List-I	**List-II**
A. The Indian Journal of Agricultural Sciences	I. India
B. Biology and Fertility of Soils	II. Japan
C. International Journal of Food Sciences and Nutrition	III. Netherlands
D. Agriculture Ecosystems and Environment	IV. USA

Choose the correct answer from the options given below: 1. A-I, B-II, C-III, D-IV

2. A-II, B-I, C-IV, D-III

3. A-I, B-IV, C-II, D-III

4. A-III, B-II, C-I, D-IV

---

113. The codons causing gene termination are:

(A) UAA

(B) UAG

(C) UUU

(D) UGA

Choose the correct answer from the options given below: 1. (A), (B) and (D) only

2. (B) and (D) only

3. (A) and (D)

4. (B), (C) and (D) only

---

114. Principles of experimental design were developed by:

1. Wilcox

2. R.A. Fisher

3. Cox and Cochran

4. WG Cochran

---

115. Chewing and biting type of mouthparts are also known as:

1. Sponging Type
2. Chewing and lapping type
3. Sponging type
4. Mandibulate Type

---

116. Match List-I with List-II:

List-I	**List-II**
(A) Powdery mildew of mangifera	(I) Erwinia trachephila
(B) Bacterial wilt of cucurbits	(II) Oidum mangifera
(C) Bacterial wilt of corn	(III) Erwinia amylovora
(D) Fire blight of pear and apple	(IV) Panioea stewartii

Choose the correct answer from the options given below: 1. (A)-(II), (B)-(I), (C)-(IV), (D)-(III)

2. (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
3. (A)-(IV), (B)-(I), (C)-(III), (D)-(II)
4. (A)-(III), (B)-(II), (C)-(I), (D)-(IV)

---

117. Caminaridin is extracted from:

1. Buprestid beetle
2. Blister Beetle
3. Chafer Beetle
4. Pulse Beetle

---

118. Most of the non-persistent viruses are transmitted by:

1. Weevils
2. Leaf beetles
3. Carrion Beetles
4. Aphids

119. The insect hindgut is usually more acidic than the midgut, partly due to:

1. Gizzard
2. Crop
3. Midgut
4. Malpighian Tubules

---

120. Assertion (A): Allopatric species are those species which occupy the same geographical areas.

Reason (R): Sympatric species are the ones which normally inhibit completely different geographical areas.

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.
