GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
(GIET UNIVERSITY)

B. Sc. (Ag.) (Third Semester) Examinations, November – 2024

PPT-212 – Fundamentals of Nematology

Time: 2 hrs Maximum: 50 Marks

The figures in the right-hand margin indicate marks.

PART – A

Q.1. Fill in the blanks with suitable word / figure. **(0.5 x 10 = 5 Marks)**

a. Tundu disease of wheat is caused by the nematode _____.
b. Male root knot nematodes are _____ in shape
c. The life cycle of nematode has _____ stages
d. Nematode suck the sap of the plant with the help of _____.
e. Vector of grape vine fan leaf virus _____.
f. The association between *Meloidogyne spp.* and Fusarium complex was first reported by_____.
g. A flat type of cell with contractile elements limited in places to the base lying close to the epidermis is _____ type of somatic musculature.
h. The digestive system of nematodes includes the stoma, oesophagus, intestine, and _____.
i. In Adenophrea, the stylet is thought to be derived from a tooth and, therefore, it is called as _____.
j. Stoma is the portion of the inner body tube lying between the_____ and _____.

Q. 2. Define (or) Explain the following in one or two sentences. **(1 x 5 = 5 Marks)**

a. Necrosis
b. Syncytium
c. Migratory endo parasites
d. Longitudinal alae
e. Somatic musculature

Q3. Match the following **(0.5 x 10 = 5 Marks)**

Column – A		**Column – B**	
(a)	Tundu disease	(i)	40 days
(b)	quarantine	(ii)	*Clavibacter tritici*
(c)	Nematode fungus interaction	(iii)	Antagonistic effect
(d)	α - terthinyl	(iv)	Atkinson
(e)	Tomato black ring	(v)	Dagger nematode
(f)	*Taenia solium*	(vi)	*Longidorus* spp.
(g)	*Xiphinima spp.*	(vii)	*Pratylenchus spp.*
(h)	*Hoplolaimus spp.*	(viii)	Foliar nematode
(i)	Lesion nematode	(ix)	Tape worm
(j)	*Aphelenchoide spp.*	(x)	Lance nematode

Q4. Write True or False against each statement **(0.5 x 10 = 5 Marks)**

a. Arrest of the growth of lateral roots is known as stubby roots.
b. Nematode eggs are covered by four membranes.
c. The immature stage of the nematode is called as juvenile.
d. Red ring disease on Coconut caused by *Rahadinaphelenchus cocophilus*.
e. Adenophorea class are also known as Aphasmida.
f. Tundu disease of wheat is associated with the bacteria *Anguina tritici* and the nematode *Clavibacter tritici*.
g. Emergence of the juvenile from the egg is known as Moulting.
h. Stunting symptoms seen in below ground plant parts.
i. Adenophorea class are also known as Aphasmida.
j. A book on "Plant parasitic nematodes and the diseases they cause" was written by Carter.

PART – B

Attempt *ANY FIVE* questions. All question carries equal marks **(6 x 5 = 30 Marks)**

5. Write down the diagnostic characters of class Secernenta and Adenophorea.
6. List down the different methods of nematode control and briefly describe about the cultural methods of nematode control.
7. Briefly describe about the biology of root knot nematodes with well labelled diagram.
8. Enlist the characteristics of members of phylum Nemata along with enlist name of nine genera of the most important plant parasitic nematodes.
9. Explain about different categories of cuticular markings present in plant parasitic nematodes.
10. Write about the male reproductive system of nematode with labelled diagram.

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