

B.Sc. (Ag.) Honours Semester-II Examination, 2017
Course No: PPC-121 (Introductory Nematology)

Signature of Centre Superintendent

Roll No. : (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

Time : Two Hours

Full marks : 40

Questions are of value as indicated in the margin

Part - I
(Objective and Short Answer Type)
(Use only ball point pen)

Time : 20 minutes

Full marks : 10

- Note:** 1. Answer in question paper itself.
2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. **State True (T) or False (F) in respect the following statements :** 5×0.5=2.5

- (a) Molya disease of barley is caused by *Belonolaimus gracilis*. ☐
- (b) The nematicide oxamyl has basipetal transmission. ☐
- (c) *DiTera*-a classical nematode bio-agent is a fermentation extract from a fungus. ☐
- (d) Rice Ufra is caused by *Ditylenchus dipsaci*. ☐
- (e) The eggshell is the only part in nematode that contains chitin. ☐

2. **Fill up the blanks with most appropriate words (any five):** 5×0.5=2.5

- (i) The most important phytonematode regulated under international quarantine legislation in 2000 _____
- (ii) *Aphlencoides* belongs to the class _____
- (iii) *Bursaphelenchus xylophilus* is primarily vectored by _____
- (iv) The cyst nematode _____ does not bear any cyst stage.
- (v) *Crotolaria* is an _____ crop of *Meloidogyne incognita*.
- (vi) So far the smallest nematode is _____.

3. **Tick (✓) the correct alternatives (any five) :** 5×0.5=2.5

- (i) Which of the following variety of tomato is resistant to *Meloidogyne incognita*?
(a) Pusa Ruby (b) Sioux (c) Hisar Lalit (d) Nidhi
- (ii) Which one of the following is a rice root knot nematode?
(a) *Meloidogyne javanica* (b) *Meloidogyne graminicola* (c) *Meloidogyne indica*
(d) *Meloidogyne incognita*

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(2)

(iii) Which one of the following is a peanut root knot nematode?

(a) *Meloidogyne javanica*, (b) *Meloidogyne hapla* (c) *Meloidogyne arenaria* (d) *Meloidogyne incognita*

(iv) Nematode responsible for “tundoo” malady of wheat

(a) *Pratylenchus brachyurus* (b) *Ditylenchus dipsaci* (c) *Tylenchorhynchus mashoodi* (d) *Anginana tritici*

(v) So called nematode brain refers to (a) (a) Stylet Knob (b) Nerve ring (c) Plasmids (d) basal bulb

(vi) Nematode has chemoreceptor

(a) Amphid (b) Papilli (c) Plasmid (d) Bursa

4. Match group ‘A’ with group ‘B’

5.0.5=2.5

Group- (A)		Group – (B)
a)	Burrowing nematode	Predacious nematode
b)	<i>Xiphinema index</i>	<i>Heterodera avenae</i>
c)	Molya disease	Rabbing
d)	Rice root-knot nematode	<i>Meloidogyne graminicola</i>
e)	<i>Mononchus papillatus</i>	<i>Radopholus similis</i>
		<i>Hirschmanniella oryzae</i>
		<i>Scutellonema bradyi</i>
		Dagger nematode

B.Sc. (Ag.) Honours Semester-II Examination, 2017

Course No: PPC-121

(Introductory Nematology)

Part - II

(Descriptive Type)

Time : 100 Minutes

Full marks : 30

Questions are of value as indicated in the margin

Answer *any four* questions

5. What are the various symptoms on crops induced by plant nematodes? Discuss with example. Discuss the wheat earcockle disease on the basis of symptoms, aetiology interactions and management. 3+4.5=7.5
 6. Compare between tylenchid and aphelenchid type of oesophagus. Briefly discuss the biological nematode management techniques. 3+4.5=7.5
 7. Write short notes (**any three**): 3×2.5=7.5
 - (a) Cuticular ornamentation
 - (b) Excretory system of nematode
 - (c) Host resistance for nematode management
 - (d) Perineal pattern
 - (e) Classification of nematodes based on parasitism
 8. How can you differentiate root knot from Rhizobium nodule? Mention striking morphometric features to differentiate the J2 of *Meloidogyne* from that of J2 of *Heterodera*. Give a note on the symptoms and management technique of ufra disease of rice. 2+2+3.5=7.5
 9. Write important historical events in the development of nematology. What are the general characteristics of plant parasitic nematodes? 3.5+4=7.5
 10. (a) Give an outline classification of the Order Tylenchida upto family level with suitable example of the genera, Or Delineate reproductive system of nematode. 5+2.5=7.5
 - (b) Differentiate between Adenophorea and Secernentea.
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