

B.Sc. (Ag.) Honours Semester-II Examination, 2019

Course No: PPC-121 (Old)
(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 of the following statements (any five):** 0.5×5=2.5
- a) Marigold releases the chemical α -terthiynyl to control nematode. ☐
 - b) The bacterial bioagent of plant parasitic nematode is *Pasturia penetrans*. ☐
 - c) Development of knots in roots of the infected plant is produced by *Tylenchulus* sp. ☐
 - d) White tip symptom on rice leaf is produced due to the infestation of *Aphelenchoides besseyi*. ☐
 - e) Ear cockle of wheat is caused by *Puccinia tritici*. ☐
 - f) Kala hasti malady disease is caused by *Tylenchorhynchus bravinatus*. ☐
2. **Fill up the blanks with most appropriate words (any five):** 0.5×5=2.5
- a) First plant parasitic nematode was reported by _____.
 - b) _____ is a nematophagous fungus.
 - c) Rice root-knot nematode is _____.
 - d) Domestic quarantine in India is enforced against _____ nematode of potato.
 - e) *Bursaphelenchus xylophilus* is disseminated by _____.
 - f) The space between outer and inner body wall of nematode is called _____.
3. **Tick (✓) the correct alternatives (any five):** 0.5×5=2.5
- a) Who is the father of nematology?
 - i) Anton Von Leeuwenhoek
 - ii) Louis Pasteur
 - iii) Robert Koch
 - iv) Nathan Augustus Cobb
 - b) Grapevine fan leaf virus was transmitted by
 - i) Bacteria
 - ii) Fungi
 - iii) Nematode
 - iv) Insect

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- c) The *Pacielomyces lilacinus* parasitizes on
 i) Egg mass ii) Larvae
 iii) Both eggs and larvae iv) None of them
- d) The infective stage of root-knot nematode is –
 i) J1 stage ii) J2 stage iii) J3 stage iv) Mature female
- e) Who described for the first time the role of nematodes in causing wilt complex disease?
 i) S. Winogradsky ii) M. W. Beijerinck
 iii) M S Woronin iv) Atkinson
- f) Who reported 'Ufra disease of rice' caused by *Ditylenchus angustus*
 i) E.J. Butler ii) B.B. Mundukar iii) Siddiqi iv) Nair et al.

4. Match column 'A' with column 'B' and jot down your answer in column 'C' based on column 'A' (**any five**): 0.5×5=2.5

Column-A	Column-B	Column-C
a) Cyst nematode	i) <i>Radophelus</i> sp.	()
b) Burrowing nematode	ii) <i>Partylenchchus</i> sp.	()
c) Dagger nematode	iii) <i>Heterodera</i> sp.	()
d) Lesion nematode	iv) <i>Rotylenchulus</i>	()
e) Needle nematode	v) <i>Trichodorus</i> sp.	()
f) Stubby root nematode	vi) <i>Xiphinema</i> sp.	()
g) Reniform nematode	vii) <i>Longidorus</i> sp.	()

B.Sc. (Ag.) Honours Semester-II Examination, 2019

Course No: PPC-121 (Old)

(Introductory Nematology)

Part - II
(Descriptive Type)

Time : 100 Minutes

Full marks : 30

Questions are of value as indicated in the margin

Answer *any three* questions from the following.

5. a) Describe the general morphological features of a plant parasitic nematode with suitable diagram. 7+3=10
b) Discuss types of cuticular arrangement.
6. Discuss the ultra-structure of male and female reproductive system of nematode with suitable diagram. 5+5=10
7. a) Write in brief about symptoms produced by various plant parasitic nematodes.
b) Describe the life cycle of root knot nematode (*Meloidogyne* sp.) with different stage of parasitism in plant. 3+7=10
8. Write short notes on the following (*any four*): 2.5×4=10
a) Classification of plant parasitic nematode
b) Excretory system of nematode
c) Cultural strategies for the management of plant parasitic nematodes
d) Role of plant parasitic nematode in disease complex
e) Bio-nematicides
f) Host resistance for nematode management
9. Differentiate between the following (*any four*): 2.5×4=10
a) Trap crops vs. Antagonistic crops
b) Ecto-parasite vs. Endo-parasite
c) Tylenchid type oesophagus vs. Aphelenchid type oesophagus
d) Root Knot vs. Root Nodule
e) Plant parasitic nematode vs. Free living nematode
f) Soil solarisation vs. Soil fumigation
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