

# **Scheme of Examination (B.Sc. (Hons.) Agriculture)**

**(2016-2020)**

**20 Marks (Internal) + 80 marks (External)**

20% Internal Examination

**20 Marks (Mid term examination/Internal assessment)**

- 1). Internal theory examination: **10 Marks**
- 2). Assignment/ Report/ Record/ Presentation: **05 Marks**
- 3). Attendance: **05 Marks**

80 % External Examination

**80 Marks External examination (Objective+ Subjective)**

**For theory examination:** Syllabus of the concerned course shall be sent to the external examiner, who shall prepare the question paper. Controller of examination may evaluate the answer sheets by external examiner or evaluated by the internal faculty of School of Agriculture and other concerned faculty of NIILM University, Kaithal.

**For practicals:** The examination shall be conducted by course instructor(s) and one teacher nominated by Head of Department.

**Part-A: 30 questions of one mark each (30 Marks) shall be compulsory. The questions shall be consisting of four objective types as detailed below:**

1. True or False **10 Marks**
2. Multiple Choice **10 Marks**
3. Fill in the Blanks **05 Marks**
4. Matching the Answers **05 Marks**

**Part-B:** Shall be of **50 marks consisting of 9 subjective type** questions carrying 10 marks each with option to attempt **any five (5)** questions.

The student shall be given Part-A first and required to attempt the same in not more than **40 minutes**, of the start of examination. As soon as the student returns part-A, he shall be supplied question paper for part-B with separate answer book for attempting part-B within rest of the time allotted to that paper.

# Part- A (Objective)

## Specimen copy for exam settler

Name. ....

Reg.no.....

NIILM UNIVERSITY, KAITHAL,  
B.Sc.(Hons.) Agriculture, Final Examination (2016-17)  
ANENT 101: Insect Morphology & Systematics, Semester- I (1st year)

Total Time: 3 hrs (Part A+B)  
Duration: 40 minutes (Part-A)

Maximum Marks: 80  
(Part A of 30 & Part B of 50)

### PART A (OBJECTIVE) QUESTION PAPER –cum- ANSWER BOOK

**Q1. Write the correct answer ( A, B,C or D) from the following in the given box : (10x1=10)**

- i. The type of antennae in honey bee is called
- a) Monilliform
  - b) Geniculate
  - c) Flabellate
  - d) Serrate
- ii. Strongest portion of insect leg is
- a) Femur
  - b) Tibia
  - c) Tarsus
  - d) Pretarsus
- iii. Insect having the scales on the wings belongs to order
- a) Isoptera
  - b) Hymenoptera
  - c) Lepidoptera
  - d) Orthoptera
- iv. “Coupling apparatus” is well developed in insect
- a) Head
  - b) Wings
  - c) Legs
  - d) Antennae
- v. Stem borers belongs to order
- a) Lepidoptera
  - b) Collombola
  - c) Protura
  - d) Hemiptera
- vi. Siphoning type of mouth parts are present in
- a) Butterfly
  - b) Housefly
  - c) Mosquito
  - d) Cockroach

- vii. Natatorial type of legs present in
- a) Grasshopper
  - b) Honeybees
  - c) Water beetle
  - d) Cockroach
- viii. Suture is the part of insect
- a) Head
  - b) Legs
  - c) Wing
  - d) Reproductive system
- ix. Grasshopper has which type of mouth parts
- a) Biting and Chewing type
  - b) Piercing and Sucking
  - c) Siphoning
  - d) Sponging and lapping
- x. Sticking or climbing type legs are found in
- a) Grasshopper
  - b) Honeybees
  - c) Water beetle
  - d) Housefly





**Q2. Match the following {put the answer a, b, c.....} from the column B into the blank ..... of column A} (5x1=5)**

COLUMN A	COLUMN B
I. .... Major waste product of insect	a) Cockroach
II. ....Insect lay eggs which hatched later on	b) Wings
III. ....Coccinalids, praying mantis and green lace wings	c) Uric acid
IV. ....leathery forewings	d) Predators of insect
V. ....Anal margin	e) Oviparous

**Q3. Write true (T) or False (F) in the given box**

**(10x1=10)**

No.	QUESTION	ANSWER
1	Malpighian tubules play an important role in insect respiratory system.	
2	A typical insect leg consists of six segments.	
3	Tergum and sternum are important part of insect head.	
4	A group of generally identical individuals is known as biotype.	
5	In insects, the haemolymph flows in closed vessels.	
6	Pupa is intermediate stage between larvae and adult stage.	
7	Crop a part of alimentary canal functions as a food reservoir	
8	Obtect type structure found in larval stage	
9	Holometabola not a metamorphosis	
10	Bipectinate type of antennae found in butterflies	

**Q4. Fill in the blanks with suitable word (s)**

**(5x1= 5)**

- 1) In mosquitoes the mouthparts are of .....type.
- 2) The method of naming and classification in insect is known as .....
- 3) The genital apperatus of female insects is generally present in .....& .....segments.
- 4) Fossorial type of legs are present in.....
- 5) Inverted Y type structure are found in insect.....

## Part B (Subjective)

# Specimen copy for exam settler

Name. ....

Reg.no.....

NILM UNIVERSITY, KATHAL,  
B.Sc. (Hons.) Agriculture, Final Examination (2016-17)  
ANENT 101 : Insect Morphology & Systematics,  
Semester- I (1st year)  
Part B (Subjective)

Duration: 2 hrs 20 minutes

Marks - 50

**Attempt any five questions. (All questions carry equal marks, 10 marks each)**

Q 5. Write in detail about the different part of male reproductive system of an insect and also draw a well labelled diagram.

Q6. (a) Enlist different type of mouthparts in insects along with example.

(b) Pupae and its types.

(c) What is integument and haemolymph

(d) Write any five insect orders with one example for each

Q7. (a) Write down the important characteristics of two families of each of the following orders.

i) Orthoptera (ii) Isoptera (iii) Coleoptera (iv) Diptera (v) Lepidoptera

(b) Write the families of following insects.

i) Honey bees (ii) Grasshopper (iii) Termite (iv) Red cotton bug (v) Yellow stem Borer

Q8. (a) Define the following .

(i) Moulting (ii) Type of Heads (iii) Binomial nomenclature (iv) pest (v) Entomology

(B) Write down the important characteristics of phylum arthropoda

Q9. Describe in detail the digestive system of an insect with diagram.

Q10. What are the thoracic appendages of insect, write the wing coupling mechanism in detail.

Q11. (a) What is metamorphosis and explain types of larvae.

(b) draw the diagram of female reproductive system.

Q12. Difference between apterygota and pterygota insects and write their orders.

Q13. Draw a well labeled diagram of insect leg along with their modifications by giving suitable examples.