

B.Sc. Semester III (Honours) Examination, 2018-19

ZOOLOGY

Course ID : 32611

Course Code : SHZOO-301C-5(T)

Course Title : Diversity of Chordata

Time: 1 Hour 15 Minutes

Full Marks: 25

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Answer *any five* of the following: 1×5=5
 - (a) Justify the name 'Cyclostomata'.
 - (b) What is Opisthoglyphous fang?
 - (c) What do you mean by Aspect Ratio?
 - (d) Distinguish between horn and antler.
 - (e) What is rete mirabilis?
 - (f) What is Melon?
 - (g) What is Wallace line? Give one example of endemic urodel amphibian. ½+½=1
 - (h) What do you mean by carnassial teeth?

 2. Answer *any two* of the following: 5×2=10
 - (a) Write on the distribution of mammals in Oriental realm. Write a note on Plate tectonic movement. 3+2=5
 - (b) Write four important characteristic features of Aves. Distinguish between Archaeornithes and Neornithes. 2+3=5
 - (c) What is echolocation? Comment on morphological adaptations of Microchiroptera for high frequency sound production and perception of echo. 1+2+2=5
 - (d) Differentiate between anadromous and catadromous migration of fishes. Write a note on nesting behaviour of fishes. 2+3=5

 3. Answer *any one* from the following: 10×1=10
 - (a) Name different components of poison apparatus with suitable diagram. Briefly describe the biting mechanism of a poisonous snake. Write down the composition of neurotoxic venom. 3+5+2=10
 - (b) Give four important chordate features of *Branchiostoma*. Briefly describe the feeding mechanism of *Branchiostoma* with a suitable diagram. 2+6+2=10
-

SH-III/Zoology-302C-6(T)/19

B.Sc. Semester III (Honours) Examination, 2018-19**ZOOLOGY****Course ID : 32612****Course Code : SHZOO-302C-6(T)**

Course Title : T6-Animal Physiology : Controlling and Co-ordinating System

Time: 1 Hour 15 Minutes**Full Marks: 25***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words
as far as practicable.*

1. Answer *any five* questions: 1×5=5
 - (a) Differentiate between neurohormone and neurotransmitter.
 - (b) What is signal amplification?
 - (c) What is Haversian canal?
 - (d) What do you mean by menarche and menopause.
 - (e) What is spermateleosis?
 - (f) Write down the name of one placental hormone and its function. ½+½=1
 - (g) State the function of Kinesin-I.
 - (h) What is pituicyte?

 2. Answer *any two* of the following: 5×2=10
 - (a) Briefly describe the role of Ca²⁺ ion in muscle contraction with proper illustration. 4+1=5
 - (b) Briefly describe the mode of action of any steroid hormone. What is endemic Goiter? 4+1=5
 - (c) State the function of hormones secreted from the adrenal cortex.
 - (d) Describe and illustrate a typical bipolar neuron. 3+2=5

 3. Answer *any one* question: 10×1=10
 - (a) Briefly describe the fertilization procedure in mammals. What is dictyate arrest? 8+2=10
 - (b) "Nerve impulse propagation is unidirectional" — Justify the statement. Narrate the sliding filament model of muscle contraction. 5+5=10
-

B.Sc. Semester III (Honours) Examination, 2018-19**ZOOLOGY****Course ID : 32613****Course Code : SHZOO-303C-7(T)****Course Title : Fundamental of Biochemistry****Time: 1 Hour 15 Minutes****Full Marks: 25***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer *any five* questions: 1×5=5
- (a) What is ribozyme?
- (b) What is anomer?
- (c) What is substrate level phosphorylation?
- (d) Give one example each of glucogenic and ketogenic amino acids. ½+½=1
- (e) Give example of one immunologically active protein containing disulphide bridge.
- (f) Why phospholipids in the plasma membrane exhibit amphipathic character.
- (g) Draw the structure of one aromatic amino acid.
- (h) What is sphingolipid?
2. Answer *any two* of the following: 5×2=10
- (a) A DNA molecule has A/T base ratio of 0.30, $\frac{G}{C}$ ratio of 2.5 and $\frac{A+T}{G+C}$ ratio of 1.30. What is the $\frac{A+G}{T+C}$ ratio in the molecule?
- A DNA segment contains 100 nucleotide base pairs.
- (i) What is the length of DNA segment?
- (ii) Calculate the number of spirals in the molecule.
- (iii) There is a total of 70 Adenine bases. Calculate the number of Guanine present in the segment. 2+(1+1+1)=5
- (b) What is gluconeogenesis? What are the three essential steps that differs from glycolysis? ½+4½=5
- (c) Describe the process of oxidative and non-oxidative deamination with suitable examples. State the significance of pentose phosphate pathway. 4+1=5
- (d) Briefly describe the Lineweaver-Burk plot during enzyme action? What is the unit of Km? 4+1=5

3. Answer *any one* question:

10×1=10

(a) Describe the electron transport system in mitochondria. Name one inhibitor of electron transport. Mention the end product of Krebs' s cycle. 8+1+1=10

(b) Differentiate between Saturated and Unsaturated fatty acids. Give one example of each type. Write the steps of reaction of the breakdown of palmitic acid by β -oxidation. Calculate the net yield of ATP in the above process. 1+1+6+2=10

SH-III/Zoology-304GE-3(T)/19**B.Sc. Semester III (Honours) Examination, 2018-19****ZOOLOGY****Course ID: 32614****Course Code: SHZOO-304GE-3(T)****Course Title: Environment and Public Health****Time: 1 Hour 15 Minutes****Full Marks: 25**

*The figures in the right hand side margin indicate marks.
Candidates are required to give their answers in their own words
as far as practicable.*

*দক্ষিণ প্রান্তস্থ সংখ্যাগুলি প্রশ্নের পূর্ণমানের নির্দেশক।
পরীক্ষার্থীদের যথাসম্ভব নিজের ভাষায় উত্তর দিতে হবে।*

1. Answer any five question of the following:**1×5=5**

নিম্নলিখিত যে-কোনো পাঁচটি প্রশ্নের উত্তর দাও :

(a) Write the names of any two green house gases.

যে-কোনও দুটি গ্রিন হাউস গ্যাসের নাম লেখো।

(b) What is nuclear waste?

পরমানু বর্জ্য কী?

(c) What is CFC?

CFC কী?

(d) Name the causative agent of Tuberculosis.

টিউবারকুলোসিস সৃষ্টিকারী এজেন্ট এর নাম লেখো।

(e) Write one adverse effect of ozone layer depletion.

ওজোন স্তর হ্রাসের একটি প্রতিকূল প্রভাব লেখো।

(f) Name two filter-feeding organisms used in sewage treatment.

নিকাশী treatment এ ব্যবহৃত দুটি ফিল্টার-ফিডিং organism এর নাম লেখো।

(g) What is sewage treatment plant?

Sewage treatment plant কী?

(h) What is Minamata disease?

Minamata রোগ কী।

2. Answer any two question:

5×2=10

নিম্নলিখিত যে-কোনো দুটি প্রশ্নের উত্তর দাও :

(a) What is acid rain? Mention the effects of acid rain on ecosystem.

2+3=5

অ্যাসিড বৃষ্টি কী? Ecosystem র উপর acid rain প্রভাব বর্ণনা করো।

(b) What are the effects of noise pollution? How does global warming lead to sea level raising?

3+2=5

শব্দ দূষণের প্রভাব কী? কীভাবে গ্লোবাল ওয়ার্মিং এর ফলে সমুদ্রের স্তর ক্রমবর্ধমান হয়?

(c) Write down the symptoms of Filariasis.

5

ফাইলেরিয়াসের লক্ষণগুলি লেখো।

(d) How does flyash from thermal power plants cause environmental pollution?

5

তাপ বিদ্যুৎ কেন্দ্র থেকে কীভাবে flyash পরিবেশ দূষণ ঘটায়?

3. Answer any one question of the following:

10×1=10

নিম্নলিখিত যে-কোনো একটি প্রশ্নের উত্তর লেখো :

(a) Describe the procedure of biomedical waste management in India. Write short note on biomagnification.

6+4=10

ভারতে biomedical বর্জ্য ব্যবস্থাপনা পদ্ধতি বর্ণনা করো। Biomagnification উপর সংক্ষিপ্ত বিবরণ দাও।

(b) Describe the methods adopted for prevention and control of Malaria disease. What are BOD and COD?

(3+4)+1½+1½=10

ম্যালেরিয়া রোগ প্রতিরোধ ও নিয়ন্ত্রণের জন্য গৃহীত পদ্ধতি বর্ণনা করো। BOD ও COD কী?

*SP-III/Zoology-304 SEC-1/19***B.Sc. Semester III (General) Examination, 2018-19****ZOOLOGY****Course ID: 32610****Course Code: SPZOO-304 SEC-1**

Course Title: Apiculture (Economic Zoology)

Time: 2 Hours**Full Marks: 40**

*The figures in the right hand side margin indicate marks.
Candidates are required to give their answers in their own words
as far as practicable.*

*দক্ষিণ প্রান্তস্থ সংখ্যাগুলি প্রশ্নের পূর্ণমানের নির্দেশক।
পরীক্ষার্থীদের যথাসম্ভব নিজের ভাষায় উত্তর দিতে হবে।*

1. Answer any five questions: 2×5=10
যে কোনো পাঁচটি প্রশ্নের উত্তর দাও :
- (a) Define Economic Zoology?
অর্থনৈতিক প্রাণীবিদ্যা বলতে কী বোঝ?
- (b) Write the scientific names of an Indian and an European Honey Bee. 1+1=2
একটি ভারতীয় ও একটি ইউরোপীয় মৌমাছির বৈজ্ঞানিক নাম লেখো।
- (c) What is Swarming?
Swarming বলতে কী বোঝ?
- (d) Define Royal jelly.
Royal jelly কী?
- (e) Mention two major functions of Worker Honey Bee. 1+1=2
শ্রমিক মৌমাছির দুটি প্রধান কাজ উল্লেখ করো।
- (f) What is Pollen Basket and state its function? 1+1=2
Pollen Basket কী এবং ইহার কাজ উল্লেখ করো।
- (g) Name three enemies of Honey bee.
মৌমাছির তিনটি শত্রুর নাম উল্লেখ করো।
- (h) Which caste of Honey bee is Haploid and state its number of chromosome. 1+1=2
মৌমাছির কোন Caste-র Chromosome Haploid প্রকৃতির এবং ইহার Chromosome সংখ্যাটি কত?
2. Answer any four questions: 5×4=20
যে কোনো চারটি প্রশ্নের উত্তর দাও :
- (a) Define Apiary. Describe the different parts of Langstroth Hive Box with suitable diagram. 1+(2+2)=5
Apiary কী? সংকেতায়ন প্রসঙ্গে Langstroth Hive Box সচিত্র গঠন বর্ণনা করো।

- (b) What is Honey? Mention its chemical composition. 2+3=5
মধু কী? ইহার রাসায়নিক উপাদান বর্ণনা করো।
- (c) Define Bee Wax? State its chemical composition and uses. 1+2+2=5
Bee Wax কী? ইহার রাসায়নিক উপাদান ও ব্যবহার উল্লেখ করো।
- (d) Write short notes on (i) Propolis (ii) Pasturage 2½+2½=5
টীকা লেখো (i) Propolis (ii) Pasturage
- (e) Mention the Systematic Position of Honey Bee up to genus. How will you distinguish between a drone and a worker bee. 3+2=5
Honey Bee-র Systematic Position গণ পর্যন্ত লেখো। Drone ও শ্রমিক মৌমাছিকে কীভাবে পার্থক্য করবে?
- (f) Mention the diseases of Adult Honey Bee. State its Pathogens and control measures. 2+2+1=5
মৌমাছির রোগগুলির নাম লেখো। ইহার Pathogena-র নাম লেখো এবং Control পদ্ধতির উল্লেখ করো।
3. Answer *any one* question: 10×1=10
যে কোনো একটি প্রশ্নের উত্তর দাও :
- (a) What is Honey Comb or Bee Hive? Describe the life history of Honey Bee with suitable diagram. 1+(6+3)=10
মৌচাক বা Honey Comb বলতে কী বোঝ? চিত্র সহকারে মৌমাছির জীবনচক্র আলোচনা করো।
- (b) What do you mean by the Language of Honey Bee. Name the person who first discovered it. Narrate two types of Bee dance with suitable diagram. 2+1+(4+3)=10
মৌমাছির ভাষা বলতে কী বোঝ? এটি কোন বৈজ্ঞানিক প্রথম আবিষ্কার করেন? দুই ধরনের মৌমাছির নাচ (Bee dance) চিত্র সহকারে বর্ণনা করো।
-

B.Sc. Semester III (Honours) Examination, 2018-19

ZOOLOGY

Course ID : 32615

Course Code : SHZOO-305 SEC-1(T)

Course Title : Apiculture

Time: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Answer *any five* questions: 2×5=10
 - (a) What do you mean by eusocial insect?
 - (b) Give the scientific name of the greater wax moth mentioning its harmful effect on Apiculture.
 - (c) Explain the term 'waggle dance'.
 - (d) What do you mean by pollen basket and Royal jelly?
 - (e) Write down the composition of honey.
 - (f) Mention two economic importance of honey.
 - (g) Mention the scientific names of two species of honey bees of commercial importance found in India.
 - (h) What do you mean by honey extractor?

 2. Answer *any four* questions: 5×4=20
 - (a) Write a short note on social organization of bee colony.
 - (b) Give an account of different types of bee diseases mentioning their causative agents. 3+2=5
 - (c) Write a short note on "Selection of Bee species for Apiculture".
 - (d) Describe different types of indigenous and modern methods of extraction of honey. 2+3=5
 - (e) Give an account of various types of bee-keeping equipments and their uses in apiculture.
 - (f) Describe the different stages of life cycle of a honey bee mentioning the role of worker bee.
 - (g) Give the brief description of Bee Pasturage.

 3. Answer *any one* question: 10×1=10
 - (a) Give an account of various products of apiculture industry mentioning their utility in human life. 6+4=10
 - (b) Draw a labelled diagram of a Langstroth beehive and describe different steps of artificial bee rearing in it. 6+4=10
-

B.Sc. Semester III (Honours) Examination, 2018-19

ZOOLOGY

Course ID : 32618

Course Code : SHZOO-301C-1C(T)

Course Title : Invertebrate II

Time: 1 Hour 15 Minutes

Full Marks: 25

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Answer *any five* questions: 1×5=5
- (a) Give an example of mollusc with out shell.
 - (b) Write down two salient features of class Polychaeta. ½+½=1
 - (c) What is Haltere?
 - (d) What is haemolymph?
 - (e) Give an example of an Echinoderm larva.
 - (f) What is a missing link?
 - (g) Define mantle.
 - (h) What is Aristotle's lantern?
2. Answer *any two* of the following: 5×2=10
- (a) Write down five characteristics of Phylum Mollusca.
 - (b) State the evolutionary significance of Onychophora.
 - (c) Briefly describe the respiratory system of Cockroach along with suitable diagram.
 - (d) Write down the similarities and dissimilarities between Phylum Chordata and Hemichordata.
3. Answer *any one* question: 10×1=10
- (a) Classify Phylum Annelida up to class with proper examples and characters. State the function of chloragogen tissue. 8+2=10
 - (b) Briefly describe the role of hormones in metamorphosis of pterygote insects. What is the fate of prothoracic gland of pterygote insects after reaching adult stage? 9+1=10
-

SH-III/Zoology-301C-5(P)/19

B.Sc. Semester III (Honours) Practical Examination, 2018-19

ZOOLOGY

Course ID : 32621

Course Code : SHZOO-301C-5(P)

Course Title : Diversity of Chordata

Time: 2 Hours

Full Marks: 15

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Identify the specimens marked A, B and C with reasons 3×3=9
For specimen : [Generic name - ½, Systematic position - ½, Reasons - 2]
 2. Dissect and display the parts of the specimen provided. Draw a neat diagram and label the parts. (3+1)+1+1=6
[Dissection and display - 2, Drawing - 1, Labelling - 1]
-

B.Sc. Semester III (Honours) Practical Examination, 2019

ZOOLOGY

Course ID : 32621

Course Code : SHZOO-301C-5(PI)

Course Title : Core P5 - Diversity of Chordata Lab

Instructions to the Examiners

1. Necessary arrangements may please be made before the date of commencement of practical examinations.
2. For question No. 1, three specimens are to be selected taking one from protochordata/agnatha, one from fishes/amphibian and one from reptilian/mammalia.
For specimens, scientific name (½ mark), systematic position (½ mark) and characters (2 marks) are to be mentioned.
For Question No. 1, separate loose sheets should be supplied to the candidates in the identification Hall and should be collected within schedule time.
The loose sheets are to be attached with the main answer scripts after evaluation and duly signed by the examiner.
3. For Question No. 2, one dissection from the followings may be allotted:
 - (a) Pecten from fowl head
 - (b) Dissection of brain of *Tilapia*Please write the dissection selected for the students on the blackboard kept in the laboratory.
Instruct the examinees to write the allotted dissection on the first right page of the answer script and should be duly signed by the examiner.
Examinees have to draw the labelled diagram of the dissection.
4. Only the examiner and laboratory personnel's should be allowed to enter the laboratory during examination.
5. Full name and signature together with address of the examiners should be enclosed with the answer scripts.
6. After completion of examination the answer scripts should be enclosed in a sealed packet containing top sheet. Award list should be separately submitted.

B.Sc. Semester III (Honours) Practical Examination, 2018-19

ZOOLOGY

Course ID : 32622

Course Code : SHZOO-302C-6(P)

Course Title : Animal Physiology : Controlling and Co-ordinating System Lab

Time: 2 Hours

Full Marks: 15

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Identify the histological tissue sections (A and B) provided with identifying characters. (1+2)×2=6
 2. Prepare a thin paraffin section of the tissue from the tissue block provided, stretch and orient the sections on Glass slide. 3+1+2=6
 3. Prepare a temporary mount of the sample provided and draw the structure and label it. 1½+1+½=3
-

B.Sc. Semester III (Honours) Practical Examination, 2018-19

ZOOLOGY

Course ID : 32622

Course Code : SHZOO-302C-6(PI)

Course Title : Animal Physiology : Controlling and Co-ordinating System Lab

Instructions to the Examiners

1. The examiners are requested to make the necessary arrangements before the date of commencement of practical examination.
2. For question No. 1, examiners are requested to instruct the examinee to identify and write down the characters of the histological section provided. At least two different sets should be provided for each batch of students. Identification - 1 mark, Characters - 2 marks.
3. For tissue section, the examiners are requested to supply marked slides to the examinee and instruct them to make 8 - 10 μm thin ribbon by using microtome, stretch, and orient the tissues in two rows.
4. For question no. 3, marked slides are to be provided to the examinees and then asked to prepare a temporary mount of the supplied tissues (According to Item No. 2 of the syllabus).
5. Examiners are requested to send the following items within 7 days after completion of the examination to the convenor:
 - (a) Examiners 'Data sheet' containing names, specimen signature, Address and phone number of all the Examiners.
 - (b) Key to identification for Question No. 1.
 - (c) Answer scripts of the candidates under sealed cover.
 - (d) Award list under sealed cover.
 - (e) Photo copies of the attendance sheets of all candidates.

B.Sc. Semester III (Honours) Practical Examination, 2018-19

ZOOLOGY

Course ID : 32622

Course Code : SHZOO-302C-6(P)

Course Title : Animal Physiology : Controlling and Co-ordinating System Lab

Time: 2 Hours

Full Marks: 15

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Identify the histological tissue sections (A and B) provided with identifying characters. (1+2)×2=6
2. Prepare a thin paraffin section of the tissue from the tissue block provided, stretch and orient the sections on Glass slide. 3+1+2=6
3. Prepare a temporary mount of the sample provided and draw the structure and label it. 1½+1+½=3

B.Sc. Semester III (Honours) Practical Examination, 2018-19

ZOOLOGY

Course ID : 32622

Course Code : SHZOO-302C-6(PI)

Course Title : Animal Physiology : Controlling and Co-ordinating System Lab

Instructions to the Examiners

1. The examiners are requested to make the necessary arrangements before the date of commencement of practical examination.
2. For question No. 1, examiners are requested to instruct the examinee to identify and write down the characters of the histological section provided. At least two different sets should be provided for each batch of students. Identification - 1 mark, Characters - 2 marks.
3. For tissue section, the examiners are requested to supply marked slides to the examinee and instruct them to make 8 - 10 μm thin ribbon by using microtome, stretch, and orient the tissues in two rows.
4. For question no. 3, marked slides are to be provided to the examinees and then asked to prepare a temporary mount of the supplied tissues (According to Item No. 2 of the syllabus).
5. Examiners are requested to send the following items within 7 days after completion of the examination to the convenor:
 - (a) Examiners 'Data sheet' containing names, specimen signature, Address and phone number of all the Examiners.
 - (b) Key to identification for Question No. 1.
 - (c) Answer scripts of the candidates under sealed cover.
 - (d) Award list under sealed cover.
 - (e) Photo copies of the attendance sheets of all candidates.

B.Sc. Semester III (Honours) Practical Examination, 2018-19

ZOOLOGY

Course ID : 32623

Course Code : SHZOO-303C-7(PI)

Course Title : Fundamental of Biochemistry Lab

Instructions to the Examiners

1. For question no. 1, examiners are requested to make arrangement for known and unknown solutions of protein samples. They are also requested to make arrangement for graph paper for individual candidates.
 2. For question No. 2, examiners are requested to provide any one of carbohydrate as sample.
-

SH-III/Zoology-303C-7(P)/19

B.Sc. Semester III (Honours) Practical Examination, 2018-19

ZOOLOGY

Course ID : 32623

Course Code : SHZOO-303C-7(P)

Course Title : Fundamental of Biochemistry Lab

Time: 2 Hours

Full Marks: 15

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Estimate the total protein present in the solution provided and write down the underlying principle of the procedure.
[Principle - 2, Experiment - 4, Result - 1] 7

 2. Qualitatively determine the presence of carbohydrate in the sample provided.
[Experiment - 4, Result - 1, Principle - 3] 8
-

SH-III/Zoology-304GE-3(P)/19**B.Sc. Semester III (Honours) Practical Examination, 2018-19****ZOOLOGY****Course ID: 32624****Course Code: SHZOO-304GE-3(P)**

Course Title: Environment and Public Health Lab.

Time: 2 Hours**Full Marks: 15**

*The figures in the right hand side margin indicate marks.
Candidates are required to give their answers in their own words
as far as practicable.*

*দক্ষিণ প্রান্তস্থ সংখ্যাগুলি প্রশ্নের পূর্ণমানের নির্দেশক।
পরীক্ষার্থীদের যথাসম্ভব নিজের ভাষায় উত্তর দিতে হবে।*

Answer all questions.

1. Determine the pH of the soil sample provided. Write the principle of pH determine.

[Principle-2, Observation-2, Result-1]

5

প্রদত্ত soil নমুনাটির pH নির্ধারণ করো। নির্ধারণের নীতি লেখো।

[নীতি-২, পর্যবেক্ষণ-২, ফলাফল-১]

2. Determine the chloride ion (Cl^{-1}) concentration of the water sample provided. Write the Principle of Chloride in determine.

[Principle-2, Observation-2, Result-1]

5

প্রদত্ত জল নমুনাটির ক্লোরাইড আয়নের (Cl^{-1}) ঘনত্ব/গাড়ত্ব নির্ধারণ করো। ক্লোরাইড আয়নের ঘনত্ব নির্ধারণের নীতি লেখো।

[নীতি-২, পর্যবেক্ষণ-২, ফলাফল-১]

3. Determine the nitrate ion (No_3^{-}) concentration of the water sample provided. Write the Principle of such determination.

[Principle-2, Observation-2, Result-1]

5

প্রদত্ত জল নমুনাটির নাইট্রেট আয়নের (NO_3^{-}) ঘনত্ব/গাড়ত্ব (concentration) নির্ধারণ করো। এই নির্ধারণের নীতি লেখো।

[নীতি-২, পর্যবেক্ষণ-২, ফলাফল-১]

SP-III/Zoology-301C-1C(P)/19**B.Sc. Semester III (General) Practical Examination, 2018-19****ZOOLOGY****Course ID: 32628****Course Code: SPZOO-301C-1C(P)**

Course Title: Invertebrate II Lab.

Time: 2 Hours**Full Marks: 15**

*The figures in the right hand side margin indicate marks.
Candidates are required to give their answers in their own words
as far as practicable.*

*দক্ষিণ প্রান্তস্থ সংখ্যাগুলি প্রশ্নের পূর্ণমানের নির্দেশক।
পরীক্ষার্থীদের যথাসম্ভব নিজের ভাষায় উত্তর দিতে হবে।*

1. Identify the specimens provided (A,B,C) with reasons. (½+1½)×3=6
উপযুক্ত কারণসহ প্রদত্ত নমুনাগুলি (A,B,C) কে শনাক্ত করো।
2. Dissect out the specimen provided. Draw a labelled diagram of the same. 2+1=3
প্রদত্ত নমুনাটি ব্যবচ্ছেদ করো এবং চিহ্নিত চিত্র অঙ্কন করো।
3. Identify the given Transverse Section. Write the characteristic features of the same. ½+1½=2
প্রদত্ত T.S.টি সনাক্ত করো এবং তার বৈশিষ্ট্যগুলো লেখো।
4. Prepare a temporary mount of the specimen provided. 2
প্রদত্ত নমুনাটির temporary mount তৈরী করো।
5. Submission of Laboratory note book. 2
Laboratory note book জমা দাও।

B.Sc. Semester III (General) Practical Examination, 2018-19

ZOOLOGY

Course ID: 32628

Course Code: SPZOO-301C-1C(PI)

Course Title: Invertebrate II Lab.

Time: 2 Hours

Full Marks: 15

Instruction to the Examiners

1. For question number 1, examiners are requested to select one specimen from Annelida or Onychophora, one from Arthropoda, and one from Mollusca or Echinodermata.
2. For question number 2, examiners are requested to ask the students to dissect out the digestive system of earthworm and draw a labeled diagram of the same
3. For question number 3, examiners are requested to set an identification of a T.S of typhlosolar intestine of earthworm and asked to write at least two identifying characters of the same.
4. For question number 4, examiners are requested to prepare a mounting of mouthparts of cockroach.
5. For question number 5, examiners are requested to give credit on the regularity and completeness of the laboratory notebook.
6. Examiners are requested to send the following items within seven days after completion of the examination to the convener.
 - (a) Examiners datasheet contains names, specimen signature, address and phone number of all examiners.
 - (b) Key to the identification.
 - (c) Answer scripts of the candidates in sealed cover.
 - (d) Award lists under sealed cover.
 - (e) Photocopies of the attendance sheet of all candidates.