

B.Sc. 1st Semester (Honours) Examination, 2019
PHYSIOLOGY

Course ID : 12512

Course Code : SH/PHY/102/C-2

Course Title: Biological Physics and Enzymes

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.*

The questions are of equal value.

1. Answer *any five* questions from the following: 1×5=5
 - (a) Define 'Gibb's free energy'.
 - (b) What do you mean by Colloid?
 - (c) Define Chromatography.
 - (d) What do you mean by isoelectric pH of protein?
 - (e) Define Osmolality.
 - (f) What is Surfactant?
 - (g) Write the full form of PAGE.
 - (h) What is Abzyme?

2. Answer *any two* questions from the following: 5×2=10
 - (a) Compare competitive and non-competitive enzyme inhibition. What is Km? 4+1=5
 - (b) What is cell fractionation? State the procedure of cell fractionation. 1+4=5
 - (c) Write the principle of electrophoresis. How it differs from the principle of Chromatography? 3+2=5
 - (d) State the 'Van't Hoff' law of osmosis. Explain the biological application of osmosis. 3+2=5

3. Answer *any one* question from the following: 10×1=10
 - (a) Differentiate between lyophilic and lyophobic colloid. Briefly describe the optical properties of colloid and mention its significance. 2+5+3=10
 - (b) Write the effects of competitive inhibitors on hyperbolic kinetics of enzyme action. Write the role of serum alkaline phosphatase and SGOT in clinical diagnosis. 5+(2½+2½)=10

B.Sc. 1st Semester (Honours) Examination, 2019

PHYSIOLOGY

Course ID : 12514

Course Code : SH/PHY/103/GE-1(T)

Course Title: Community 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 questions of the following:

1×5=5

নিম্নলিখিত যে কোনো পাঁচটি প্রশ্নের উত্তর দাও :

(a) Name one communicable and one non-communicable diseases.

একটি সংক্রমণ ও একটি অসংক্রমণ রোগের নাম লেখো।

(b) What is ACU?

ACU কী?

(c) What is IDDM?

IDDM কী?

(d) Mention any one method of obesity measurement.

স্থূলতা পরিমাপের যে কোনো একটি পদ্ধতি উল্লেখ করো।

(e) Write the name of two waterborne diseases.

জলবাহিত যে কোনো দুটি রোগের নাম লেখো।

(f) What is undernutrition?

উনপুষ্টি কী?

(g) What do you mean by secondary hypertension.

গৌণ উচ্চ রক্তচাপ বলতে কী বোঝো?

(h) Name the disease caused by iron deficiency in human?

লোহার অভাবে মানবদেহে রোগের নাম লেখো।

2. Answer *any two* questions of the following: 5×2=10

নিম্নলিখিত প্রশ্নগুলির মধ্যে *যে কোনো দুটির* উত্তর দাও :

(a) Write short notes on Anaemia and Dietary fibre. 2½+2½=5

সংক্ষিপ্ত টীকা লেখোঃ অ্যানিমিয়া এবং খাদ্যতন্তু।

(b) Write the nutritional value of rice. Describe the dietary management of hypertension. 2+3=5

চালের পুষ্টিমূল্য লেখো। উচ্চ রক্তচাপে আক্রান্ত ব্যক্তির পথ্য ব্যবস্থা বর্ণনা করো।

(c) Write the different probable control of noise pollution. What is neural deafness? 4+1=5

শব্দদূষণের সম্ভাব্য নিয়ন্ত্রণ পদ্ধতিগুলি উল্লেখ করো। স্নায়ুজ বধিরতা কী?

(d) What is marasmus? Mention its symptoms and preventive measures. 1+2+2=5

ম্যারাসমাস কী? এর লক্ষণ ও প্রতিকার পদ্ধতি উল্লেখ করো।

3. Answer *any one* question of the following: 10×1=10

নিম্নলিখিত প্রশ্নগুলির মধ্যে *যে কোনো একটির* উত্তর দাও :

(a) What is BMI? Write about the dietary management of obesity. What are the diseases related to obesity? 2+6+2=10

BMI কী? মেদবহুলতার পথ্য ব্যবস্থাপনা লেখো। মেদবহুলতাজনিত রোগগুলি কী কী?

(b) Write the basic principle of balanced diet chart formulation of pregnant and lactating mother. What is NPU? Mention its importance. 4+4+1+1=10

গর্ভবতী ও স্তন্যদানকারি মহিলার সুষম খাদ্য তালিকা প্রস্তুতির মূলনীতিগুলি লেখো। NPU কী? এর গুরুত্বগুলি লেখো।

SP-I/PHY/101/C-1A/19

B.Sc. 1st Semester (Programme) Examination, 2019-20

PHYSIOLOGY

Course ID : 12518

Course Code : SP/PHY/101/C-1A

Course Title : Physiological Aspect of Community 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.*

1. Answer any five of the following:

1×5=5

যে কোনো পাঁচটি প্রশ্নের উত্তর লেখো :

(a) What do you mean by Dietary fibre?

খাদ্যতন্তু বলতে কী বোঝো ?

(b) Give the definition of over nutrition.

অতিপুষ্টির সংজ্ঞা দাও ।

(c) What is PCM?

PCM কী ?

(d) What do you mean by NIDDM?

NIDDM বলতে কী বোঝো ?

(e) Write down the name of measurement unit of sound.

শব্দ পরিমাপের এককের নাম লেখো ।

(f) What are the major two routes of HIV infection?

HIV সংক্রমণের প্রধান দুটি পথ কী ?

(g) Define noise index.

শব্দ সূচক-এর সংজ্ঞা দাও ।

(h) What do you mean by essential amino acid?

অত্যাবশ্যকীয় অ্যামাইনো অ্যাসিড বলতে কী বোঝো ?

2. Answer any two of the following:

5×2=10

যে কোনো দুটি প্রশ্নের উত্তর লেখো :

(a) Write down the nutritional value of egg. Describe the dietary management of diabetes. 2+3=5

ডিমের পুষ্টিমূল্য আলোচনা করো । মধুমেহ রোগে আক্রান্ত ব্যক্তির পথ্য ব্যবস্থা বর্ণনা করো ।

(b) Write down short notes on Obesity and Hypertension.

2½+2½=5

সংক্ষিপ্ত টীকা লেখো : স্থূলকায়ত্ব এবং উচ্চ রক্তচাপ

(c) What do you mean by communicable disease? Write down the causes, symptoms and preventive measures of filariasis. $1+1+1+2=5$

সংক্রামক রোগ বলতে কী বোঝায়? ফাইলেরিয়াসিস রোগের কারণ, লক্ষণ ও প্রতিকারের উপায়গুলো লেখো।

(d) What is kwashiorkor? Write down the composition and nutritional value of cow milk. $1+2+2=5$

কোয়াশিওরকর কী? গা-দুগ্ধের উপাদান এবং পুষ্টিমূল্য সম্বন্ধে লেখো।

3. Answer *any one* of the following:

$10 \times 1 = 10$

যে কোনো একটি প্রশ্নের উত্তর লেখো :

(a) (i) Describe the dietary management of athletes.

ক্রীড়াবিদদের পথ্য ব্যবস্থাপনা সম্বন্ধে লেখো।

(ii) Write the effects of sound pollution on human health.

$5+5=10$

মানবদেহে শব্দদূষণের প্রভাব সম্বন্ধে লেখো।

(b) (i) Write the basic principle of balanced diet chart formulation of adult male and female.

প্রাপ্তবয়স্ক পুরুষ এবং মহিলার সুসম খাদ্যতালিকা প্রস্তুতির মূলনীতিগুলি লেখো।

(ii) What do you mean by calorie requirement and biological value of protein?

$(2+3)+(2+3)=10$

ক্যালোরি চাহিদা এবং প্রোটিনের জৈব মূল্য বলতে কী বোঝায়?

B.Sc. 1st Semester (Honours) Examination, 2019
PHYSIOLOGY

Course ID : 12511

Course Code : SH/PHY/101/C-1

Course Title: Cellular Basis of Physiology

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.*

The questions are of equal value.

- 1. Answer any five questions:** 1×5=5
- (a) Write the function of desmosome.
 - (b) State the role of plasma cell.
 - (c) Write the location and function of syncytium.
 - (d) What do you mean by carrier mediated transport?
 - (e) Mention the role of rough surfaced endoplasmic reticulum.
 - (f) What is Farnandez-Moran subunit?
 - (g) Write the name of the chemical that arrest cell division.
 - (h) State the characteristics of connective tissue.
- 2. Answer any two questions:** 5×2=10
- (a) What is synovial fluid? Write the composition of synovial fluid. 1+4=5
 - (b) Define tight junction. Briefly describe the structure and function of gap junction. 1+(2+2)=5
 - (c) Differentiate between apocrine and holocrine glands. Define antiport. 3+2=5
 - (d) Classify different types of connective tissue with example. Name one secretory epithelial cell. 4+1=5
- 3. Answer any one question:** 10×1=10
- (a) (i) What is cell cycle? Discuss the different phages of cell cycle.
 - (ii) Write the significance of chiasma formation. (2+6)+2=10
 - (b) (i) Mention the composition and function of CSF.
 - (ii) Briefly discuss the process of symport across the cell membrane with a suitable example. (3+2)+(4+1)=10

B.Sc. 1st Semester (Honours) Practical Examination, 2019

PHYSIOLOGY

Course ID : 12521

Course Code : SH/PHY/101/C-1(PRI)

Course Title : Cellular Basis of Physiology Lab

Instructions to the Examiners.

1. Five permanent stained slides are to be given taking one from each group as follows:

Group-A : Oesophagus, Stomach, Duodenum, Large Intestine.

Group-B : Liver, Kidney, Lung, Spleen.

Group-C : Spinal cord, Cerebrum, Cerebellum, Tongue.

Group-D : Thyroid, Adrenal, Pancreas, Salivary.

Group-E : Testis, Ovary, Uterus, Ureter.

One minute is allowed for identification of each slide.

Three slides should be changed daily.

Credit should be given, when at least one character is right with correct identification.

Marks:— (a) Correct identification = 1

(b) Two characters = $\frac{1}{2} \times 2 = 1$

2. Laboratory Notebook: — Marks should be awarded on the basis of :

(i) Coverage of syllabus, and

(ii) Regular signature by class teacher(s).

3

3. Viva voce: Questions should be asked on :

(i) Practical performed

(ii) Practicals under the syllabus, and

(iii) Instruments used with theoretical concept.

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SH-I/PHY/102/C-2/(PR)/19

B.Sc. 1st Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 12522

Course Code : SH/PHY/102/C-2(PR)

Course Title : Biological Physics and Enzymes 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.*

1. Determine the activity of SGPT from supplied sample. Write down the principle, protocol and interpret your result. 10
(Principle = 2, Protocol = 2, Data and Result = 2, Calculation = 3, Interpretation = 1)
 2. Laboratory Notebook 3
 3. Viva voce 2
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B.Sc. 1st Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 12522

Course Code : SH/PHY/102/C-2(PRI)

Course Title : Biological Physics and Enzymes Lab

Instructions to the Examiners.

1. (a) Two samples should be prepared.
(b) Mark distribution:
Principle = 2
Protocol = 2
Data and Result = 2
Calculation = 3
Interpretation = 1
(c) Examiner(s) should test the reference value and reading at the same time.
(d) Error Calculation:
Error up to 10% = 3
Error above 10% up to 20% = 2
Error above 20% = 1 10
 2. Laboratory Notebook — Marks should be given on the basis of : — Coverage of syllabus, regular signature of class teacher(s) and neatness. 3
 3. Viva voce: Question should be asked on practical performed, instruments used and theoretical knowledge on the syllabus. 2
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SH-I/PHY/103/GE-1/(PR)/19

B.Sc. 1st Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 12524

Course Code : SH/PHY/103/GE-1(PR)

Course Title : Community 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.*

1. (a) Write the procedure of determination of noise level by sound level meter.
সাউন্ড লেভেল মিটার দ্বারা শব্দের মাত্রা নির্ধারক পদ্ধতিটি লেখো।
- (b) Determine the noise level in decibel of any two regions of your examination centre using sound level meter and interpret your results. 2+(1½+1½+1)=6
তোমার পরীক্ষা কেন্দ্রের যে কোনো দুটি স্থানের শব্দের মাত্রা ডেসিবেল এককে নয়াজ লেভেল মিটার দ্বারা নির্ধারণ করো এবং তোমার ফলাফলের উপর মন্তব্য লেখো।
2. Submission of hand written report (as per syllabus) 5
হাতে লেখা রিপোর্ট প্রদান (সিলেবাস অনুযায়ী)
3. Laboratory Notebook 2
পরীক্ষাগারের নথি
4. Viva voce 2
মৌখিক পরীক্ষা

B.Sc. 1st Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 12524

Course Code : SH/PHY/103/GE-1(PRI)

Course Title : Community and Public Health Lab

Instructions to the Examiners

1. Two readings should be taken at each place:

Markings:

Procedure	2
Collection of data and tabulation	1½+1½
Interpretation	1

2. Out of all topics mentioned in the syllabus one report must be submitted (hand written).

Markings:—

Overall presentation of report	3
Viva voce on the report	2

3. Laboratory notebook having regular signature by class teacher(s), neatness and number of practicals performed. 2

4. Viva voce:

Questions should be from practicals performed in the class and on theoretical knowledge covering the syllabus. 2

SP-I/PHY/101/C-1A/(PR)/19

B.Sc. 1st Semester (Programme) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 12528

Course Code : SP/PHY/101/C-1A(PR)

Course Title : Physiological Aspect of Community 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.*

Answer all the questions.

1. Determine the noise level in decibel of any four places of your examination centre by sound level meter. 2+3+1=6
তোমার পরীক্ষা কেন্দ্রের যে কোনো চারটি স্থানে শব্দের মাত্রা ডেসিবেল এককে 'সাইন্ড লেভেল মিটার' দ্বারা নির্ণয় করো।
Mention the procedure of the experiment
পরীক্ষা পদ্ধতি উল্লেখ করো
Tabulate the collected data
সংগৃহীত ডাটার সারণী লিপিবদ্ধকরণ
Interpret your result
তোমার ফলাফলের মন্তব্য লেখো
 2. Submit report as per your syllabus (Handwritten). 2+2=4
হাতে লেখা রিপোর্ট প্রদান করো।
 3. Laboratory Notebook 3
পরীক্ষাগারের নথি
 4. Viva voce 2
মৌখিক প্রশ্নোত্তর
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B.Sc. 1st Semester (Programme) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 12528

Course Code : SP/PHY/101/C-1A(PRI)

Course Title : Physiological Aspect of Community Health Lab

Instructions to the Examiners.

- | | |
|---------------------------------------------------------------------------------------------|---------|
| 1. (a) Procedure | 2 |
| (b) Collection of data and tabulation | 1½+1½=3 |
| (c) Interpretation | 1 |
| 2. (a) Overall presentation of the report (must be hand written). | 2 |
| (b) Viva voce on report. | 2 |
| 3. Laboratory Notebook: Credit should be given on the basis of — | |
| (a) laboratory notebook having regular signature by class teacher. | |
| (b) Neat presentation of the notebook. | 3 |
| 4. Viva voce: | |
| Must be from practicals performed in the classes, instruments used & theoretical knowledge. | 2 |
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SH-I/PHY/101/C-1/(PR)/19

B.Sc. 1st Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 12521

Course Code : SH/PHY/101/C-1(PR)

Course Title : Cellular Basis of Physiology 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.*

1. Identify five permanent stained histological slides mentioning at least two characteristic points of each slide focussed under low power objective of compound microscope. 2×5=10
 2. Laboratory Notebook 3
 3. Viva voce 2
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