

B.Sc. 3rd Semester (Honours) Examination, 2019-20**PHYSIOLOGY****Course ID : 32512****Course Code : SH/PHY/302/C-6(T)**

Course Title: Circulation

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) Define cardiac output.
 - (b) What do you mean by complete and incomplete heart block?
 - (c) Mention the significance of T-wave.
 - (d) What do you mean by cardiac arrhythmia?
 - (e) Write the full form of ARAS. Write any one function of it.
 - (f) Define 'Einthoven's triangle'.
 - (g) Write any two peculiarities of cerebral circulation.
 - (h) What is cardiac vector?
2. Answer *any two* questions: 5×2=10
- (a) (i) Calculate minute volume of a person whose heart rate and stroke volume is 72 beats. min⁻¹ and 70ml respectively.
 - (ii) Describe the factors regulating cardiac output in man. 1+4=5
 - (b) Write the origin and implications of heart sounds. 5
 - (c) Write the changes occurring in different phases of ventricular systole. What is angina pectoris? 4+1=5
 - (d) What is cardiac hypertrophy? Mention the respiratory changes due to exercise. 1+4=5
3. Answer *any one* question: 10×1=10
- (a) (i) Describe the anatomical considerations and regulation of cutaneous circulation.
 - (ii) State the peculiarities of cerebral circulation. (4+3)+3=10
 - (b) (i) What is blood brain barrier? Write the function of blood brain barrier.
 - (ii) Mention the composition and function of CSF. (1+2)+(4+3)=10

B.Sc. 3rd Semester (Honours) Examination, 2019-20**PHYSIOLOGY****Course ID : 32513****Course Code : SH/PHY/303/C-7(7)**

Course Title: Functions of the Nervous System

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* questions: 1×5=5
- (a) What is E. E. G.?
 - (b) Mention the origin of Parasympathetic nervous system.
 - (c) What do you mean by extra pyramidal nerve tract?
 - (d) What is Parkinson's disease?
 - (e) Which nucleus is responsible as feeding centre? Mention its location.
 - (f) Define NREM sleep.
 - (g) Mention the reason of decerebrate rigidity.
 - (h) What is Primary motor cortex?
2. Answer *any two* questions: 5×2=10
- (a) Define reflex arc. State the function of different components of a reflex arc. 1+4=5
 - (b) Discuss the role of cerebellum in the regulation of posture and equilibrium. 5
 - (c) Write a short note on basal ganglia. 5
 - (d) What is unconditioned reflex? Describe the physiological basis of development of conditioned reflex. 1+4=5
3. Answer *any one* question: 10×1=10
- (a) Briefly discuss the origin, outflow and function of sympathetic nervous system. 2+4+4=10
 - (b) (i) Discuss the gate control theory of pain sensation.
 - (ii) Why is thalamus considered as relay station? 5+5=10

SH-III/Physiology/304/GE-3/19

B.Sc. 3rd Semester (Honours) Examination, 2019-20

PHYSIOLOGY

Course ID : 32514

Course Code : SH/PHY/304/GE-3(T)

Course Title: Environmental Pollution and Human 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 from the following:

1×5=5

নিম্নলিখিত যে কোনো পাঁচটি প্রশ্নের উত্তর দাও :

(a) What is BOD?

BOD কী?

(b) What do you mean by Noise?

নয়েজ বলতে কী বোঝো?

(c) Write any two respiratory disorders occur by air pollution.

বায়ুদূষণের ফলে শ্বাসতন্ত্রে সৃষ্ট দুটি রোগের নাম লেখো।

(d) Write two harmful effects of ozone depletion on human health.

ওজন হ্রাস-এর কারণে মানবদেহে সংঘটিত দুটি ক্ষতিকারক প্রভাব লেখো।

(e) What is global warming?

বিশ্ব উষ্ণায়ন কী?

(f) What are biodegradable pollutants?

জৈব বিয়োজনযোগ্য দূষক কী কী?

(g) Define 'Bio magnification'.

জৈব বিবর্ধন-এর সংজ্ঞা দাও।

(h) What do you mean by PPM?

PPM বলতে কী বোঝো?

2. Answer any two questions from the following:

5×2=10

নিম্নলিখিত যে কোনো দুটি প্রশ্নের উত্তর দাও :

(a) Discuss about major air pollutants and their impact on human body. $2\frac{1}{2}+2\frac{1}{2}=5$

মুখ্য বায়ুদূষকগুলি সম্পর্কে আলোচনা করো এবং মানবদেহে এদের প্রভাব সম্পর্কে লেখো।

(b) Describe about disposal of solid waste management. 5

‘কঠিন বর্জ্য দূরীকরণ ব্যবস্থাপনা’ সম্পর্কে আলোচনা করো।

(c) Briefly discuss the effect of water pollution on human health. What is COD? $3+2=5$

সংক্ষেপে মানবস্বাস্থ্যের ওপর জলদূষণের প্রভাবগুলি আলোচনা করো। COD কী?

(d) What do you mean by eutrophication? Describe about control of noise pollution. $2+3=5$

Eutrophication বলতে কী বোঝো? শব্দদূষণ নিয়ন্ত্রণের সম্পর্কে বর্ণনা করো।

3. Answer any one question from the following:

10×1=10

নিম্নলিখিত যে কোনো একটি প্রশ্নের উত্তর দাও :

(a) Write short notes on: $5+5=10$

টীকা লেখো।

(i) Bhopal gas tragedy

ভূপাল গ্যাস দুর্ঘটনা

(ii) Minamata disease

মিনামাটা রোগ

(b) Explain the various processes of controlling water pollution. Write the full form of USEPA.

$8+2=10$

জলদূষণ নিয়ন্ত্রণে ব্যবহৃত বিভিন্ন পদ্ধতিগুলি সম্পর্কে ব্যাখ্যা করো। USEPA পুরো নাম লেখো।

SP-III/Physiology/301/C-1C/19

B.Sc. 3rd Semester (Programme) Examination, 2019-20

PHYSIOLOGY

Course ID : 32518

Course Code : SP/PHY/301/C-1C(T)

Course Title: Environmental Hazards and Human Physiology

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 from the following:

1×5=5

নিম্নলিখিত যে কোনো পাঁচটি প্রশ্নের উত্তর দাও :

(a) What is decibel?

ডেসিবেল কী?

(b) Write the name of any two secondary air pollutants.

যে কোনো দুটি গৌণ বায়ুদূষকের নাম লেখো।

(c) Which are the diseases caused by radio active pollution?

তেজস্ক্রিয় দূষণের ফলে কোন কোন রোগ হয়?

(d) What is algal bloom?

অ্যালগাল ব্লুম কী?

(e) What do you mean phytoremediation?

Phytoremediation বলতে কী বোঝো?

(f) Write the full form of PAN.

PAN এর পুরো নাম লেখো।

(g) Write the names of any two instruments for air pollution prevention.

বায়ুদূষণ প্রতিরোধক দুটি যন্ত্রের নাম লেখো।

(h) Write the full form of Rem.

REM-এর পুরো নাম লেখো।

2. Answer *any two* questions from the following:

5×2=10

নিম্নলিখিত যে কোনো দুটি প্রশ্নের উত্তর দাও :

(a) Discuss about the effect of biological oxygen demand. Write the important difference between biological oxygen demand and chemical oxygen demand. 3+2=5

জৈবনিক অক্সিজেন চাহিদার প্রভাব আলোচনা করো। জৈবনিক অক্সিজেন চাহিদা এবং রাসায়নিক অক্সিজেন চাহিদার পার্থক্য লেখো।

(b) What are the causes of ozone hole formation? Discuss the effect of Ozone layer depletion. 2+3=5

ওজন গহ্বর সৃষ্টির কারণ কী? ওজোন স্তরে অবক্ষয়ের প্রভাব আলোচনা করো।

(c) How does arsenic pollution takes place in ground water? Write the causes of 'Black foot disease'. 3+2=5

আর্সেনিক কীভাবে ভূগর্ভস্থ জলকে দূষিত করে? 'ব্ল্যাক ফুট ডিজিজ' — এর কারণ সমূহ লেখো।

(d) Discuss about the advantages and disadvantages of bioremediation. Give any two examples of solid waste management. 4+1=5

Bioremediation এর সুবিধা ও অসুবিধা আলোচনা করো। solid waste management এর যে কোনো দুটি উদাহরণ দাও।

3. Answer *any one* question from the following:

10×1=10

নিম্নলিখিত যে কোনো একটি প্রশ্নের উত্তর দাও :

(a) What are causes of increasing green house gases? Discuss about the effect of green house gases. 3+7=10

গ্রিন হাউস গ্যাস বৃদ্ধির কারণগুলি কী কী? গ্রিন হাউস গ্যাসসূহের প্রভাব আলোচনা করো।

(b) Briefly discuss about the effect of noise pollution on human health. Write the ways to control noise pollution. 5+5=10

মানবস্বাস্থ্যের উপর শব্দদূষণের প্রভাব আলোচনা করো। শব্দদূষণ নিয়ন্ত্রণের উপায়গুলি লেখো।

SP-III/Physiology/304/SEC-1(P)/19

B.Sc. 3rd Semester (Programme) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32520

Course Code : SP/PHY/304/SEC-1(PR)

Course Title: Food Pollutants Lab

Time: 4 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.*

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

1. Identify three common adulterants in the supplied samples (collected by lottery through proper sequential biochemical tests. Write the procedures of biochemical tests sequentially.

10+10+10=30

তিনটি নমুনা খাদ্যে মেশানো তিনটি ভেজালকে (লটারির দ্বারা সংগৃহীত) সঠিক ক্রম অনুসারে প্রাণ রাসায়নিক পরীক্ষাগুলির সাহায্যে শনাক্ত করো। সঠিক ক্রমে রাসায়নিক পরীক্ষাসমূহের পদ্ধতি লেখো।

2. Laboratory Notebook 5
পরীক্ষাগারে ব্যবহৃত খাতাসমূহ
 3. Viva voce 5
মৌখিক প্রশ্নোত্তর
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B.Sc. 3rd Semester (Programme) Examination, 2019-20

PHYSIOLOGY

Course ID : 32520

Course Code : SP/PHY/304/SEC-1(PRI)

Course Title: Food Pollutants Lab

Instructions to the Examiners

1. Nine food samples to be prepared from the following groups containing common adulterants: 10×3=30

- (a) Aluminium foil in sweet.
- (b) Besan in chalk powder.
- (c) Hg in chocolate.
- (d) Metanil yellow in sweet.
- (e) Margarine in butter.
- (f) Monosodium glutamate in meat.
- (g) Pb in noodles.
- (h) Sugar in Honey.
- (i) Turmeric powder in Ice cream.

Sample should be prepared as A₁, A₂, A₃ etc with confidential key.

Making for each sample —

Sequential tests —

No marks for wrong identification and without any test.

2. Laboratory Notebook having regular signature by class teacher (s) with neat presentation. 5
3. Viva voce: 5
- Questions should be on instruments used in the practical classes and from theoretical knowledge.

B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32521

Course Code : SH/PHY/301/C-5(PR)

Course Title: Circulating Body Fluid 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.*

Answer all the questions

1. Draw a film of your blood. Stain it suitably with Leishman's stain. Focus a large lymphocyte at the middle of the field under high power (40 ×) objective of a compound microscope. Draw the field exactly which you have focussed and label properly.

Marks distribution:

- | | |
|---|-------|
| (a) Blood film | 3 |
| (b) Proper staining | 3 |
| (c) Correct identification | 2 |
| (d) Labelled diagram of your focussed field | 1+1=2 |
| 2. Laboratory Notebook | 3 |
| 3. Viva voce | 2 |

B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32521

Course Code : SH/PHY/301/C-5(PRI)

Course Title: Circulating Body Fluid Lab

Instructions to the Examiners.

1. One slide may be allowed for each candidate with mentioning signature of Examiner
 - Blood film preparation 3
 - Blood film staining 3
 - Large Lymphocyte focussing 2
 - Drawing 1
 - Labelling 1
 2. Credit should be given on the basis of Laboratory notebook having regular signature by class teachers.
Percentage covered from the syllabus. 3
 3. Viva voce 2
Question will cover from the practical performances instruments used and theoretical knowledge.
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B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32522

Course Code : SH/PHY/302/C-6(PR)

Course Title: Circulation 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.*

Answer all the questions

1. (a) Measure the maximum height of contractions of heart curve of toad (supplied to you through lottery) in —
 - (i) Normal heart curve
 - (ii) Effect of ion
 - (b) Count the number of heart rates for 5 seconds in both the normal and effect of ion curves.
 - (c) Interpret your results. (2+2)+3+3=10
 2. Laboratory Notebook 3
 3. Viva voce 2
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SH-III/Physiology/302/C-6(PI)/19

B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32522

Course Code : SH/PHY/302/C-6(PRI)

Course Title: Circulation Lab

Instructions to the Examiners.

1. (a) Model heart curves bearing normal and effect of ion should be distributed through lottery.
(b) Examiner should sign against the code number of each curve in the examinees answer script and subsequently should take a record for sample key in each day.
(c) Proper counting and measurement of degree of contraction with unit (s) should only carry full marks.
(d) Results are to be mentioned in a tabular form.
 2. Regular signature by the Teacher (s) and neatness should carry credit marks. Marks are to be given on the basis of number of practicals performed in regular class.
 3. Question should be asked from practical component, instruments used and theoretical basis.
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B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32523

Course Code : SH/PHY/303/C-7(PR)

Course Title: Functions of the Nervous 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. Determine the superficial reflex (plantar reflex)
 - (a) Write the root value of plantar reflex
 - (b) Write the procedure for the conduction of experiment (plantar reflex)
 - (c) Interpret your result 1+2+2=5

 2. Measure handgrip strength by handgrip dynamometer.
 - (a) Write the principle of the experiment.
 - (b) Prepare a data table by taking data on both hand.
 - (c) Interpret your result. 1+2+2=5

 2. Laboratory Notebook 3

 3. Viva voce 2
-

B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32523

Course Code : SH/PHY/303/C-7(PRI)

Course Title: Functions of the Nervous System Lab

Instructions to the Examiners.

1.
 - General history should be mentioned otherwise ½ marks should be deducted.
 - Should check in both leg.
2.
 - Hand grip strength should check on both hand
 - Unit should be mentioned properly otherwise marks should be deducted.
3. Credit should be given on the basis of —
 - Laboratory Notebook having regular signature by class teachers.
 - Covered from syllabus
 - Neat presentation of the Note books.
4. Viva voce
Must be from practicals performed in the classes, instruments used and theoretical knowledge.

SH-III/Physiology/304/GE-3(P)/19

B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32524

Course Code : SH/PHY/304/GE-3(PR)

Course Title: Environmental Pollution and Human Health Lab

Time: 2 Hours

Full Marks: 15

The figures in the right hand side margin indicate marks.

The questions are equal value.

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

Answer the questions.

1. Measure the height of contraction of cardiac rhythm from the supplied curve received by you through lottery in normal and effect of temperature phases. Calculate the number of beats in 3 seconds in each phase. Interpret your result. 2+2+2+2+2=10

লটারির মাধ্যমে সরবরাহকৃত কার্ড থেকে হৃৎপিণ্ডের ছন্দের সংকোচন-এর উচ্চতা স্বাভাবিক দশায় এবং উষ্ণতার প্রভাবজনিত দশায় নির্ণয় করো। প্রতিটি দশার ৩ সেকেন্ডের হৃৎস্পন্দনের সংখ্যা গণনা করো। তোমার ফলাফলের উপর মন্তব্য লেখো।

2. Laboratory notebook. 3
পরীক্ষাগার নথি।
3. Viva voce 2
মৌখিক প্রশ্নোত্তর

SH-III/Physiology/304/GE-3(PI)/19

B.Sc. 3rd Semester (Honours) Examination, 2019-20

PHYSIOLOGY

Course ID : 32524

Course Code : SH/PHY/304/GE-3(PRI)

Course Title: Environmental Pollution and Human Health Lab

Instructions to the examiners.

1. (a) Model heart curves bearing normal and effect of temperature should be distributed through lottery. 10
 - (b) Examiner should sign against the code number of each curve in the examinees, answer script and subsequently should take a record for sample key in each day.
 - (c) Proper counting and measurement of degree of contraction with unit (s) should only carry full marks.
 - (d) Results are to be mentioned in a tabular form.
[Height of contraction of normal curve = 2, calculation of beat in normal curve = 2, Height of contraction of Temperature curve = 2, calculation of beat in Temperature = 2, Interpretation = 2.
2. Regular signature by the teachers and neatness should carry credit marks. Marks are to be given on the basis of member of practically performed in regular class. 3
 3. Question should be asked from practical component, instrument used and theoretical basis. 2
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B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32525

Course Code : SH/PHY/305/SEC-1B(PR)

Course Title: Haematological Techniques Lab

Time: 4 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.*

Answer all the questions.

1. Write the procedure of blood film preparation. Draw a film of your own blood. Stain it suitably with Leishman's stain. Focus a three lobed neutrophil at the middle of the field under high power objective (40X) of a compound microscope. Draw a field exactly which you have focussed and label properly. 20
[Marks distribution (a) Procedure – 5 (b) Blood film – 4 (c) Proper staining – 5, Correct identification – 3, Correct labelled diagram of your focussed field – (1+2)=3]

 2. Determine bleeding time of your friend. Interpret your results. 10
[Marks distribution: (a) Personal data – 2 (b) Result – 5 (c) Interpretation – 3]

 3. Laboratory Notebook 5

 3. Viva voce 5
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B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32525

Course Code : SH/PHY/305/SEC-1B(PRI)

Course Title: Haematological Techniques Lab

Instructions to the Examiners

1.
 - Two slides should be marked by dimond pencil for each examinee
 - Procedure 5
 - Blood film preparation 4
 - Staining 5
 - Focussing of three lobe neutrophil 3
 - Labelling 1
 - Diagram 2
 2. Personal data 2
 - Result of bleeding time 5
 - Interpretation 3
 3. Laboratory notebook having regular signature by the class teacher/s and syllabus covered. 5
 4. Question to be asked from practicals performed, instruments used and theoretical knowledge. 5
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SH-III/Physiology/301/C-1C(PR)/19

B.Sc. 3rd Semester (Programme) Practical Examination, 2019-20

PHYSIOLOGY

Course ID : 32528

Course Code : SP/PHY/301/C-1C(PR)

Course Title: Environmental Hazards and Human 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.*

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

Answer *all* of the questions.

1. (a) Write the procedure of determination of noise level by sound level meter.
সাউন্ড লেভেল মিটার দ্বারা শব্দের মাত্রা নির্ধারণের 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. 3+(4+3)=10
তোমার পরীক্ষাকেন্দ্রের যে কোনো দুটি স্থানের শব্দের মাত্রা ডেসিবেল এককে নয়াজ লেভেল মিটার দ্বারা
নির্ধারণ করো এবং তোমার ফলাফলের উপর মন্তব্য লেখো।
2. Laboratory notebook. 3
পরীক্ষাগার নথি
3. Viva voce 2
মৌখিক পরীক্ষা

SP-III/Physiology/301/C-1C(PRI)/19

B.Sc. 3rd Semester (Programme) Examination, 2019-20

PHYSIOLOGY

Course ID : 32528

Course Code : SP/PHY/301/C-1C(PRI)

Course Title: Environmental Hazards and Human Physiology Lab

Instructions to the examiners.

1. (a) Procedure in brief. 3
(b) Collection of data and tabulation (Two separate regions are to be mentioned). 2+2=4
(c) Interpretation. 3
 2. Laboratory notebook having regular signature by class teacher(s), neatness and number of practicals performed in regular class. 3
 3. Viva voce : Questions are to be asked from practical performed, practical syllabus and instruments used alongwith theoretical syllabus. 2
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B.Sc. 3rd Semester (Honours) Examination, 2019-20**PHYSIOLOGY****Course ID : 32511****Course Code : SH/PHY/301/C-5(T)****Course Title: Circulating Body Fluids****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 from the following: 1×5=5
- (a) Define 'Armeth index'.
 - (b) What is 'Human Leucocyte Antigen'?
 - (c) Define methaemoglobin.
 - (d) What do you mean by Thalassaemia?
 - (e) What are the peculiarities of HbF?
 - (f) Why blood does not clot in circulation?
 - (g) How does a reticulocyte differ from a mature erythrocyte?
 - (h) What is D-antigen?
2. Answer *any two* questions from the following: 5×2=10
- (a) Name any one chemical anticoagulant. State its mechanism of action in our body. 1+4=5
 - (b) Write the mechanism of lymph formation. Mention any two functions of lymph node. 3+2=5
 - (c) What are the difference between plasma and serum? State the role of vitamin K in coagulation. 2+3=5
 - (d) Describe the different types of anaemia. 5
3. Answer *any one* question from the following: 10×1=10
- (a) Describe the steps of biosynthesis of haemoglobin mentioning the role of enzymes. What is plasmapheresis? Mention its significance. 6+2+2=10
 - (b) Mention the role of vitamin B₁₂ and folic acid in erythropoiesis. What are the functions of WBC? Define innate immunity. 2+2+3+3=10