2017 (S) Roll No: _____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 2.40 Hours **SUBJECTIVE** MAXIMUM MARKS: 68

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any eight parts. $8 \times 2 = 16$

(i) Define anhydrobiosis with an example.
(ii) Differentiate between Protonephridium and Metanephridium.
(iii) What is Renal Failure?
(iv) Define Passive Flight and Active Flight.
(v) What is Sciatica? Give its causes.
(vi) Briefly elaborate Muscle Fatigue.
(vii) Define After Birth.
(viii) What are Test Tube Babies?
(ix) How productivity of an aquatic ecosystem can be determined?
(x) Briefly describe the plant and animal life of Tundra Ecosystem.
(xi) How wind is used to Generate Energy? Briefly write its mechanism.
(xii) How Forests are important for Climate?

3. Attempt any eight parts. $8 \times 2 = 16$

(i) Write down the names and functions of any two Skin receptors.
(ii) Define Neurotransmitters. Name different types of Neurotransmitters.
(iii) What is Parasympathetic Nervous System?
(iv) Define Pleiotropy. Give two examples.
(v) Differentiate between Heterozygote and Homozygote.
(vi) What do you mean by Over Dominance?
(vii) Define Cystic Fibrosis.
(viii) What are Palindromic Sequences?
(ix) Differentiate between Autecology and Synecology.
(x) Describe Recombinant DNA Technology.
(xi) Define Mycorrhiza.
(xii) Explain Food Web with example.

4. Attempt any six parts. $6 \times 2 = 12$

(i) What are Lateral Meristems? Give its function.
(ii) Differentiate between Epiblast and Hypoblast.
(iii) What are Okazaki Fragments?
(iv) Differentiate between Codon and Anticodon.
(v) How many chromosomes are present in Mouse and Sugarcane?
(vi) Name the different sub-stages of prophase – I of Meiosis – I.
(vii) Define the terms Tetrad and Crossing over.
(viii) State Hardy – Weinberg Theorem.
(ix) What is Genetic Drift?

SECTION-II

NOTE: - Attempt any three questions.

5.(a) Explain the role of liver as an excretory organ. 4

(b) Define Succession. Discuss Succession on Land. 1 + 3 = 4

6.(a) Define Joints. How are they classified? Explain. 1 + 1 + 2 = 4

(b) Write a short note on "One – gene/one – polypeptide Hypothesis". 4

7.(a) Define Learning Behaviour. Describe Imprinting and Habituation as an example of Learning Behaviour. 1 + 3 = 4

(b) Write a note on Wild Life. 4

8.(a) Explain Female Reproductive Cycle. 4

(b) Write the Phenomenon of Gene Linkage. 4

9.(a) Define Regeneration. Explain it in various groups of Animals and Plants. 4

(b) Write a note on "Inheritance of acquired characteristics". 4

Paper Code Number: 4461

2017 (S) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) Number of Ammonia molecules to produce one molecule of urea is:-

(A) 01 (B) 02 (C) 03 (D) 04

(2) Aldosterone helps in the retension of:-

(A) K^- (B) Na^+ (C) Ca^{++} (D) Mg^{++}

(3) _____ provides attachment site for muscles.

(A) Compact bone (B) Spongy bone (C) Cartilage bone (D) Hip bone

(4) The movement of Chloroplast towards light is by the process of:-

(A) Active transport (B) Cyclosis (C) Endocytosis (D) Exocytosis

(5) Resting membrane potential of a neuron is:-

(A) – 50 mV (B) – 60 mV (C) – 70 mV (D) – 80 mV

(6) Vehicle for the transport of male gametes in land plants is:-

(A) Water (B) Pollen tube (C) Wind (D) Pollen grain

(7) Reproduction is necessary for the survival of:-

(A) Individual (B) Species (C) Biome (D) Community

(8) Optimum temperature for growth of plants is:-

(A) $30-40^\circ C$ (B) $25-30^\circ C$ (C) $10-20^\circ C$ (D) $5-20^\circ C$

(9) Histones are attracted to:-

(A) Nitrogen basis of DNA (B) Sugar of DNA (C) Phosphate of DNA (D) Proteins

(10) Cell cycle involves:- (A) Growth of cell

(B) Replication of DNA (C) Cell division (D) Growth of cell, replication of DNA and Cell division

(11) _____ is pre-mitotic phase.

(A) G0 (B) G1 (C) G2 (D) S

(12) All the genes found in a breeding population constitute:-

(A) Genotype (B) Genome (C) Gene frequency (D) Gene pool

(13) Primer for PCR contains about bases:-

(A) 10 (B) 20 (C) 100 (D) 200

(14) Archaeobacteria can tolerate temperature upto:-

(A) $90^\circ C$ (B) $100^\circ C$ (C) $110^\circ C$ (D) $120^\circ C$

(15) A predator is a:-

(A) Producer (B) Consumer (C) Decomposer (D) Symbiont

(16) Northern coniferous forests are also called:-

(A) Tundra (B) Taiga (C) Alpine (D) Boreal

(17) Air in motion is called:-

(A) Atmosphere (B) Wind (C) Gas (D) Weather

Paper Code Number: 4463

2017 (S) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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(17) Histones are attracted to:-
(A) Nitrogen basis of DNA (B) Sugar of DNA (C) Phosphate of DNA (D) Proteins

Paper Code Number: 4465

2017 (S) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

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Paper Code Number: 4467

2017 (S) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

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2017 (S) Roll No: _____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 3.10 Hours **SUBJECTIVE** MAXIMUM MARKS: 83

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any Eight parts. **8 × 2 = 16**

(i) Define and sketch Urea Cycle.
(ii) What is Glomerules Filtrate? Give its contents.
(iii) How do plants adapt to survive in heat stress?
(iv) What is Turgor Pressure? Give its importance.
(v) Differentiate between Heartwood and Sapwood.
(vi) Differentiate between Chemotactic and Chemotropic Movement.
(vii) What is Cushing's Disease? Give its symptoms.
(viii) What is meant by Oestrous Cycle?
(ix) Differentiate between Alpine and Boreal Forests.
(x) How is productivity of Aquatic System indicated and determined?
(xi) What is Ozone Layer Depletion? Give its cause.
(xii) Forests or trees are called Environmental Buffers. Why is so?

3. Attempt any Eight parts. **8 × 2 = 16**

(i) Differentiate between Diurnal Rhythms and Circannual Rhythms.
(ii) Write any two commercial applications of Gibberellins.
(iii) Write any two effects of use of Nicotine.
(iv) Differentiate between Phenotype and Genotype.
(v) What are Multiple Alleles? Quote their example
(vi) Differentiate between Heterogametic and Homogametic.
(vii) What are Plasmids? Give one example.
(viii) Differentiate between Genome and Genomic library.
(ix) What is cell suspension culture? Give its example.
(x) Define Niche. Who first proposed it?
(xi) Differentiate between Autecology and Synecology.
(xii) Differentiate between Macronutrients and Micronutrients.

4. Attempt any Six parts. **6 × 2 = 12**

(i) What are point Mutations? Give examples.
(ii) How Histones help DNA coiling around it?
(iii) Differentiate between Heterochromatin and Euchromatin.
(iv) Enlist the causes of Abnormal Development.
(v) Give open growth pattern in Plants.
(vi) What is Down's Syndrome? Give its symptoms.
(vii) How Necrosis differ from Apoptosis?
(viii) Enlist the main points of Darwin's theory of Natural Selection.
(ix) Differentiate between Convergent and Divergent Evolution.

SECTION-II

NOTE: - Attempt any three questions. **8 × 3 = 24**

5.(a) Explain Excretion in Plants. 4
(b) Describe the flow of energy in food chain in an ecosystem. 4
6.(a) Give the structure of skeletal muscle fibre. 4
(b) Describe the replication process of DNA in detail. 4
7.(a) Describe the role of Auxins in plants. Give its commercial applications. 4
(b) Write a note on Wild Life. 4
8.(a) Explain Sexually Transmitted Diseases. 4
(b) Explain Diabetes mellitus and its type. 4
9.(a) What is Aging? Explain the process of Aging. 4
(b) Explain various hypothesis for the evolution of eukaryotes from prokaryotes. 4

SECTION-III (PRACTICAL)

10. Attempt any three parts.

(A) Sketch and label urinogenital system of Male Frog. 5
(B) Sketch and label forelimb of Frog. 5
(C) Investigate the phenomenon of Geotropism and write down material, procedure, observations and results. 5
(D) Draw and label various stages of Mitosis. Give brief description for each stage. 5
(E) Write short notes on:- 5

(i) What is Synapsis?
(ii) What is Muscle Twitch?
(iii) What are Hydrophytes? Give one example.
(iv) What is Polygenic Inheritance?
(v) Define Water Table.

Paper Code Number: 8461

2017 (S) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) Each segment of earthworm has metanephridia:-

(A) One pair (B) Two pairs (C) Three pairs (D) Four pairs

(2) _____ is precursor for Urea cycle.

(A) Argon (B) Alanine (C) Ornithine (D) Leucine

(3) _____ is plant movement in response to touch.

(A) Phototropism (B) Geotropism (C) Thigmotropism (D) Chemotropism

(4) _____ is facial bone.

(A) Maxilla (B) Ulna (C) Tibia (D) Sphenoid

(5) Darkening of skin is due to hormone:-

(A) LH (B) TSH (C) FSH (D) MSH

(6) _____ stimulates mammary development in preparation for lactation.

(A) LH (B) ADH (C) ACTH (D) Lactogen

(7) Reproduction is very important to the survival of:-

(A) Species (B) Ecosystem (C) Community (D) Individual

(8) The human life span is judged to be maximum of years:-

(A) 100 – 120 years (B) 120 – 130 years (C) 120 – 125 years (D) 100 – 150 years

(9) _____ is present in DNA.

(A) Peptido Bond (B) Glycosidic Bond (C) Metallic Bond (D) Phosphodiester Bond

(10) _____ is misleadingly resting phase.

(A) M – Phase (B) Interphase (C) Prophase (D) Anaphase

(11) Nuclear envelope disappears during phase:-

(A) Prophase (B) Metaphase (C) Anaphase (D) Telophase

(12) Blood group system is encoded by a single polymorphic gene 1 on chromosome:-

(A) 6 (B) 7 (C) 8 (D) 9

(13) One common type of vector is:-

(A) Ribosome (B) Lysosome (C) Mesosome (D) Plasmid

(14) _____ introduced Binomial Nomenclature.

(A) Linnaeus (B) Lamarck (C) Malthus (D) Lyell

(15) _____ is a group of interbreeding individuals occurring together in space and time.

(A) Population (B) Community (C) Biosphere (D) Biome

(16) Layering is the characteristics of ecosystem:-

(A) Tundra (B) Grassland (C) Desert (D) Forest

(17) Nuclear energy is obtained from nuclear fuels by:-

(A) Binary fission (B) Multiple fission (C) Nuclear fission (D) Biogas

Paper Code Number: 8463

2017 (S) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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(17) One common type of vector is:-
(A) Ribosome (B) Lysosome (C) Mesosome (D) Plasmid

Paper Code Number: 8465

2017 (S) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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Paper Code Number: 8467

2017 (S) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

BIOLOGY PAPER-II (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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(4) Reproduction is very important to the survival of:-
(A) Species (B) Ecosystem (C) Community (D) Individual

(5) The human life span is judged to be maximum of years:-
(A) 100 – 120 years (B) 120 – 130 years (C) 120 – 125 years (D) 100 – 150 years

(6) _____ is present in DNA.
(A) Peptido Bond (B) Glycosidic Bond (C) Metallic Bond (D) Phosphodiester Bond

(7) _____ is misleadingly resting phase.
(A) M – Phase (B) Interphase (C) Prophase (D) Anaphase

(8) Nuclear envelope disappears during phase:-
(A) Prophase (B) Metaphase (C) Anaphase (D) Telophase

(9) Blood group system is encoded by a single polymorphic gene 1 on chromosome:-
(A) 6 (B) 7 (C) 8 (D) 9

(10) One common type of vector is:-
(A) Ribosome (B) Lysosome (C) Mesosome (D) Plasmid

(11) _____ introduced Binomial Nomenclature.
(A) Linnaeus (B) Lamarck (C) Malthus (D) Lyell

(12) _____ is a group of interbreeding individuals occurring together in space and time.
(A) Population (B) Community (C) Biosphere (D) Biome

(13) Layering is the characteristics of ecosystem:-
(A) Tundra (B) Grassland (C) Desert (D) Forest

(14) Nuclear energy is obtained from nuclear fuels by:-
(A) Binary fission (B) Multiple fission (C) Nuclear fission (D) Biogas

(15) Each segment of earthworm has metanephridia:-
(A) One pair (B) Two pairs (C) Three pairs (D) Four pairs

(16) _____ is precursor for Urea cycle.
(A) Argon (B) Alanine (C) Ornithine (D) Leucine

(17) _____ is plant movement in response to touch.
(A) Phototropism (B) Geotropism (C) Thigmotropism (D) Chemotropism

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN

OBJECTIVE KEY FOR INTER (PART I / II) Annual Examination, 2017.

Name of Subject Biology Session 2015 - 2017 (New Scheme) + old Scheme 2012 - 2014

Group: (New Scheme) Group: old Scheme)

Q. Nos.	Paper Code 4461	Paper Code 4463	Paper Code 4465	Paper Code 4467
1.	B	D	B	C
2.	B	C	C	B
3.	A	D	D	B
4.	B	B	C	B
5.	C	D	D	C
6.	B	B	B	D
7.	B	B	D	C
8.	B	B	B	D
9.	C	B	B	B
10.	D	B	B	D
11.	C	A	B	B
12.	D	B	B	B
13.	B	C	A	B
14.	D	B	B	B
15.	B	B	C	B
16.	B	B	B	A
17.	B	C	B	B
18.				
19.				
20.				

Q. Nos.	Paper Code 8461	Paper Code 8463	Paper Code 8465	Paper Code 8467
1.	A	A	A	A
2.	C	A	C	D
3.	C	B	D	D
4.	A	C	B	A
5.	D	A	A	C
6.	D	C	D	D
7.	A	C	D	B
8.	C	A	A	A
9.	D	D	A	D
10.	B	D	B	D
11.	A	A	C	A
12.	D	C	A	A
13.	D	D	C	B
14.	A	B	C	C
15.	A	A	A	A
16.	B	D	D	C
17.	C	D	D	C
18.				
19.				
20.				

سرٹیفکیٹ بابت تصحیح سوالیہ پرچہ/مارکنگ Key

ہم نے مضمون Biology پرچہ II گروپ — سیشن old + New امتحانی امتحان 2017 کا سوالیہ پرچہ بغور مطالعہ کیا۔ معروضی (Subjective & Objevtive) کو بنظر عمیق چیک کرلیا ہے یہ پرچہ سلیبس کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کرلیا ہے یہ Version آپس میں مطابقت رکھتے ہیں اور سلیبس (Syllabus) کے مطابق بھی ہیں۔ نیز اس پرچہ کی Key کی بابت بھی تصدیق کی جاتی ہے کہ یہ بھی درست بنائی گئی ہے۔ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔

مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیارہ کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کرلیا ہے اور ان کی روشنی میں Key بنائی ہے۔

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