

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE 1st ANNUAL EXAMINATION, 2025

Name of Subject: Biology II

Group: I

Q. Nos	Paper Code 4461	Correct Answer	Paper Code 4463	Correct Answer	Paper Code 4465	Correct Answer	Paper Code 4467	Correct Answer
1	D	Stomata on the upper surface of leaves	C	Embryo	D	use and disuse of parts	B	Eutrophication
2	B	Nut Shells	D	Stem (vegetative)	A	Nitrification	D	Stomata on the upper surface of leaves
3	C	A-Band reduces in length	A	AUG	C	Profundal Zone	B	Nut Shells
4	A	Nociceptors	C	Telocentric	B	Eutrophication	C	A-Band reduces in length
5	B	Cushing's disease	D	Anaphase I	D	Stomata on the upper surface of leaves	A	Nociceptors
6	C	Embryo	B	L1	B	Nut Shells	B	Cushing's disease
7	D	Stem (vegetative)	A	Anther culturing	C	A-Band reduces in length	C	Embryo
8	A	AUG	C	Calcium chloride	A	Nociceptors	D	Stem (vegetative)
9	C	Telocentric	D	Use and disuse of parts	B	Cushing's disease	A	AUG
10	D	Anaphase I	A	Nitrification	C	Embryo	C	Telocentric
11	B	L1	C	Profundal Zone	D	Stem (vegetative)	D	Anaphase I
12	A	Anther culturing	B	Eutrophication	A	AUG	B	L1
13	C	Calcium chloride	D	Stomata on the upper surface of leaves	C	Telocentric	A	Anther culturing
14	D	Use and disuse of parts	B	Nut Shells	D	Anaphase I	C	Calcium chloride
15	A	Nitrification	C	A-Band reduces in length	B	L1	D	Use and disuse of parts
16	C	Profundal Zone	A	Nociceptors	A	Anther culturing	A	Nitrification
17	B	Eutrophication	B	Cushing's disease	C	Calcium chloride	C	Profundal Zone
18								
19								
20								
Gross Check	A B C D		A B C D		A B C D		A B C D	
Total	4 4 5 4		4 4 5 4		4 4 5 4		4 4 5 4	

سرٹیفکیٹ یافتہ اساتذہ کرام کے لیے

ملاحظہ فرمائیے کہ یہ امتحان (Subjective & Objective) کو نظر میں رکھ کر کیا ہے۔ یہ پرچہ Syllabus کے متن مطابق Set کیا گیا ہے۔ اس سوال پرچہ میں کسی قسم کی تبدیلی نہیں ہے۔ ہم نے اس پرچہ میں دو اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ میں موجود Key (MCQs) کی بہت قدرتی کمی ہے۔ اس میں بھی کسی قسم کی کوئی غلطی نہیں ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق نوٹ کی کتاب سے تیار کردہ ہدایات کو مدنظر رکھ کر اس پرچہ میں Key بنائی ہے۔ نیز سب اکیڈمز پر کیے گئے تعلیمی بارکد ہدایات / بارکد شیٹ / Rubrics بھی تیار کردہ ہیں۔

Prepared & Checked By:

Dated: 13-5-25

S.#	Name	Designation	Institution	Mobile No	Signature
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Re-Checked By: (ملاحظہ فرمائیے کہ یہ امتحان "Key" اور ہدایات کے حوالے سے مکمل طور پر تیار کر لیا ہے۔ کسی قسم کی کوئی غلطی نہیں ہے۔)

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14/05/25

2025 (1 st -A)		Roll No:	
INTERMEDIATE PART-II (12 th Class)			
BIOLOGY PAPER-II GROUP-I			
TIME ALLOWED: 2.40 Hours		SUBJECTIVE	
MAXIMUM MARKS: 68			
NOTE: Write same question number and its parts number on answer book, as given in the question paper.			
SECTION-I			
2. Attempt any eight parts.			8 × 2 = 16
(i)	How excess salts are excreted by fishes living in marine water?		
(ii)	Compare hydrophytes with xerophytes.	(iii)	Enlist main types of kidney stones
(iv)	Write down the ultra structure of thin muscle filament.		
(v)	Give briefly the mechanism of movement of cilia.		
(vi)	Differentiate between Epinasty and hyponasty.		
(vii)	What is seed dormancy? How it is helpful for a plant?	(viii)	What is apomixes?
(ix)	Define Eutrophication. Give its two disadvantages.		
(x)	Differentiate between alpine and boreal forests.		
(xi)	How acid rains are harmful for an ecosystem?	(xii)	Why forests are called environmental buffers?
3. Attempt any eight parts.			8 × 2 = 16
(i)	Define Receptors. List different types of receptors.		
(ii)	Write two commercial applications of Gibberellin.		
(iii)	Name the hormones of adrenal medulla with function.		
(iv)	What is meant by MODY? Write its one cause.		
(v)	A normal woman whose father was red blind marries a red blind man. What proportion of their children can have normal colour vision?		
(vi)	Differentiate between Homozygous and Heterozygous.		
(vii)	What is gene pharming? Give example.	(viii)	How complementary DNA are formed?
(ix)	Name the diseases whose antibody are made from transgenic corn and soyabeen.		
(x)	Summarize your understanding about root nodule during symbiotic association.		
(xi)	Compare ectoparasite with endoparasite.		
(xii)	Write same lines about crustose lichen stage of Xerosere.		
4. Attempt any six parts.			6 × 2 = 12
(i)	Write the role of hormones in apical dominance.		
(ii)	What was the conclusion of experiment of Hans Dietrich (1892)?		
(iii)	Give the information found in a typical chromosome of homo sapiens.		
(iv)	Give the role of ligase in DNA replication.		
(v)	Write down the structural formulas of both the purines bases found in DNA.		
(vi)	What is mitotic apparatus? Give its importance.		
(vii)	Fertility of a woman is affected with age in terms of genetic disorders. How?		
(viii)	Write the contribution of Lynn Margulis in evolution.		
(ix)	Differentiate the homologous and analogous organs.		
SECTION-II			
NOTE: Attempt any three questions.			3 × 8 = 24
5.(a)	Describe various adaptations in plants to cope with low and high temperatures.		4
(b)	Compare mitosis with meiosis and describe their importance.		4
6.(a)	What is secondary growth? Explain the role of vascular cambium and cork cambium in secondary growth		4
(b)	What is the nitrogen cycle? How does it regulate nitrogen availability in ecosystems?		4
7.(a)	Compare nervous system of planaria with nervous system of hydra.		4
(b)	Briefly discuss Darwin's theory of evolution.		4
8.(a)	Describe menstrual cycle in human female.		4
(b)	Write an explanatory note on Rh blood group system.		4
9.(a)	Describe the process of Aging. How it is slowed down?		4
(b)	Provide a detailed overview of PCR technique and its procedure.		4

Paper Code Number: 4461		2025 (1st-A) INTERMEDIATE PART-II (12th Class)		Roll No:	
BIOLOGY PAPER-II GROUP-I					
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	_____ is not the adaptation of xerophytes.	Small thick leaves	Stomata in depressions	Thick waxy cuticle	Stomata on the upper surface of leaves
2	Sclereides are most probably found in:	Xylem	Nut shells	Bundle cap	Stem cortex
3	_____ event does not occur during muscle contraction.	I-bands shorten	Z-lines get closer	A-bands reduce in length	H-zones disappear
4	The type of receptors which produce sensation of pain are:	Nociceptors	Thermoreceptors	Photoreceptors	Pacinian corpuscles
5	Over secretion of cortical hormones may cause the disease:	Addison's disease	Cushing's disease	Grave's disease	Diabetes mellitus
6	During vernalisation, low temperature stimulus in the seeds is received by:	Leaves	Shoot apex	Embryo	Roots
7	_____ organ of the plant shows indeterminate growth.	Leaves	Fruits	Flowers	Stem (vegetative)
8	_____ is not a non sense codon.	AUG	UAA	UAG	UGA
9	Which type of chromosomes do not possess arms on one side of the centromere?	Metacentric	Acrocentric	Telocentric	Sub metacentric
10	The phase of Meiosis which is considered as a reduction phase:	Telophase I	Anaphase II	Metaphase I	Anaphase I
11	An organism has four pair of homologous chromosomes, how many linkage groups does this organism possess?	2	4	1	8
12	What will be the best tissue culture technique to produce plants homozygous for all their alleles?	Anther culturing	Cell suspension culturing	Protoplast culturing	Meristem culturing
13	In recombinant DNA technology, bacterial cells can be made more permeable for recombinant plasmids, if they are treated with:	Sodium chloride	Cesium chloride	Calcium chloride	Potassium chloride
14	_____ is not the part of Darwinism.	Over production	Struggle for survival	Variations	Use and disuse of parts
15	The oxidation of ammonia or ammonium ions is termed as:	Nitrification	Assimilation	Denitrification	Ammonification
16	The zone of lake ecosystem where light does not penetrate:	Limnetic zone	Littoral zone	Profundal zone	Both littoral and Limnetic
17	_____ is a water pollution.	Ozone depletion	Eutrophication	Acid rains	Greenhouse effect

Paper Code Number: 4463		2025 (1st-A) INTERMEDIATE PART-II (12th Class)		Roll No: _____	
BIOLOGY PAPER-II GROUP-I					
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
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11	The zone of lake ecosystem where light does not penetrate:	Limnetic zone	Littoral zone	Profundal zone	Both littoral and Limnetic
12	_____ is a water pollution.	Ozone depletion	Eutrophication	Acid rains	Greenhouse effect
13	_____ is not the adaptation of xerophytes.	Small thick leaves	Stomata in depressions	Thick waxy cuticle	Stomata on the upper surface of leaves
14	Sclereides are most probably found in:	Xylem	Nut shells	Bundle cap	Stem cortex
15	_____ event does not occur during muscle contraction.	I-bands shorten	Z-lines get closer	A-bands reduce in length	H-zones disappear
16	The type of receptors which produce sensation of pain are:	Nociceptors	Thermoreceptors	Photoreceptors	Pacinian corpuscles
17	Over secretion of cortical hormones may cause the disease:	Addison's disease	Cushing's disease	Grave's disease	Diabetes mellitus

Paper Code Number: 4465		2025 (1 st -A) INTERMEDIATE PART-II (12 th Class)		Roll No: _____	
BIOLOGY PAPER-II GROUP-I					
TIME ALLOWED: 20 Minutes			OBJECTIVE	MAXIMUM MARKS: 17	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
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15	An organism has four pair of homologous chromosomes, how many linkage groups does this organism possess?	2	4	1	8
16	What will be the best tissue culture technique to produce plants homozygous for all their alleles?	Anther culturing	Cell suspension culturing	Protoplast culturing	Meristem culturing
17	In recombinant DNA technology, bacterial cells can be made more permeable for recombinant plasmids, if they are treated with:	Sodium chloride	Cesium chloride	Calcium chloride	Potassium chloride

Paper Code Number: 4467		2025 (1st-A) INTERMEDIATE PART-II (12th Class)		Roll No:	
BIOLOGY PAPER-II GROUP-I					
TIME ALLOWED: 20 Minutes			OBJECTIVE		MAXIMUM MARKS: 17
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	_____ is a water pollution.	Ozone depletion	Eutrophication	Acid rains	Greenhouse effect
2	_____ is not the adaptation of xerophytes.	Small thick leaves	Stomata in depressions	Thick waxy cuticle	Stomata on the upper surface of leaves
3	Sclereides are most probably found in:	Xylem	Nut shells	Bundle cap	Stem cortex
4	_____ event does not occur during muscle contraction.	I-bands shorten	Z-lines get closer	A-bands reduce in length	H-zones disappear
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BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN
OBJECTIVE KEY FOR INTERMEDIATE 1st ANNUAL EXAMINATION, 2025

Name of Subject: Biology Group: II

Q. Nos	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer
	4462		4464		4466		4468	
1	A	Excretion.	A	27	A	5' → 3'	D	DNA ligase mapping human chromosomes
2	D	Sap wood	C	Mammals	C	24 hrs	A	Escherichia coli
3	C	Sea Anemone	A	Epiblast.	B	3:1	A,B,C,D	A,B,C,D
4	B	Circannual rhythms	D	Karyotype	D	DNA ligase mapping human chromosomes	A	Food web
5	A	27	A	5' → 3'	A	Escherichia coli	C	1
6	C	Mammals	C	24 hrs	A,B,C,D	A,B,C,D	D	Grayish brown
7	A	Epiblast	B	3:1	A	Food web	A	Excretion
8	D	Karyotype	D	DNA ligase mapping human chromosomes	C	1	D	Sap wood.
9	A	5' → 3'	A	Escherichia coli	D	Grayish brown	C	Sea anemone
10	C	24 hrs	A,B,C,D	A,B,C,D	A	Excretion.	B	Circannual rhythms
11	B	3:1	A	Food web	D	Sap wood.	A	27
12	D	DNA ligase-mapping human chromosomes	C	1	C	Sea anemone	C	mammals
13	A	Escherichia coli	D	Grayish brown	B	Circannual rhythms	A	Epiblast.
14	A,B,C,D	A,B,C,D	A	Excretion.	A	27	D	Karyotype
15	A	Food web	D	Sap wood.	C	mammals	A	5' → 3'
16	C	1	C	Sea anemone	A	Epiblast.	C	24 hrs
17	D	Grayish brown	B	Circannual rhythms	D	Karyotype.	B	3:1
18								
19								
20								
Grand Check	A B C D		A B C D		A B C D		A B C D	
Total								

مرٹیکٹڈ سوالات کی جوابی کلید

یہ سوالیہ پرچہ امتحان کے سالانہ امتحان 2025 کے لیے تیار کیا گیا ہے۔ اس سوالیہ پرچہ میں دو قسم کی سوالات (Subjective & Objective) کو بطور تمیز چیک کر لیا ہے۔ یہ پرچہ Syllabus کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی Key (MCQs) کی بات تصدیق کی جاتی ہے کہ اس میں کسی قسم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات پڑھ لی ہیں۔ ان ہدایات کے مطابق اس Key میں کوئی غلطی نہیں ہے۔ نیز سب ایگزامینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ اسکیم / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 13-5-25

S.#	Name	Designation	Institution	Mobile No	Signature
1	Tariq Mahmood	A-P	Govt. Millat College Multan	0306361448	Tariq
2	M. Mazhar Iqbal	Assoc Prof.	Govt. Graduate College of Science Multan	03027493385	Mazhar
3	Dr. M. Zafar Malik	Professor	Govt. Graduate College of Science Multan	03344194053	Dr. M. Zafar Malik
4					
5	Dr. M. Idrees	A-P	Govt. Millat Graduate College Multan	03216331505	Dr. M. Idrees

Re-Checked By: ہم نے درج بالا سوالیہ پرچہ (انشائیہ + معروضی) کی Key اور ہدایات کے حوالے سے مکمل طور پر چیک کر لی ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔

1	Dr. M. Riz 3	Ass. prof	Govt. Millat Gxd. college	03007356740	Dr. M. Riz 3
2	M. Qamar	Asst. prof	Govt. college civil lines Multan	03007486871	M. Qamar

14/05/25

2025 (1 st -A) INTERMEDIATE PART-II (12 th Class)		Roll No: _____
BIOLOGY PAPER-II GROUP-II		
TIME ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68
NOTE: Write same question number and its parts number on answer book, as given in the question paper.		
SECTION-I		
2. Attempt any eight parts.		8 × 2 = 16
(i)	How do marine fishes adopt their osmoregulatory mechanism to survive in a hypertonic environment?	
(ii)	Human nephrons have association of three types of capillary beds. Give their names and location in the kidney.	
(iii)	Why leaves are said to be excretophores?	
(iv)	How is callus formed in plants?	
(v)	What is the role of calcium ions in muscle contraction?	
(vi)	Differentiate between exoskeleton and endoskeleton.	
(vii)	How do Sertoli cells contribute in spermatogenesis?	
(viii)	Name the hormones secreted by placenta.	
(ix)	Which type of life is present in the Profundal zone of a fresh water lake?	
(x)	Define productivity of an ecosystem.	
(xi)	Why forests are called environmental buffers?	
(xii)	How does deforestation contribute to climate change?	
3. Attempt any eight parts.		8 × 2 = 16
(i)	What is Chlorosis? Write its cause.	
(ii)	How ethene is commercially important?	
(iii)	Differentiate between kinesis and taxis.	
(iv)	Define Co-dominance. Give an example.	
(v)	How would you define polygenic trait? Give an example.	
(vi)	What are multifactorial traits?	
(vii)	How restriction endonucleases are important for bacteria?	
(viii)	What is vortex method to inject genes into eggs?	
(ix)	What are somaclonal variations?	
(x)	How ecosystem can be defined?	
(xi)	Differentiate between primary succession and secondary succession.	
(xii)	What is mycorrhiza?	
4. Attempt any six parts.		6 × 2 = 12
(i)	Define aging. Give its symptoms.	
(ii)	What are teratogens? Give example.	
(iii)	Give main components of a DNA nucleotide.	
(iv)	How would you define transformation?	
(v)	Define Okazaki fragments. Where they are found?	
(vi)	Why interphase is called resting phase?	
(vii)	How anaphase of mitosis differs from anaphase-I of meiosis-I?	
(viii)	Define Neo-Darwinism.	
(ix)	Differentiate between homologous organs and vestigial organs.	
SECTION-II		
NOTE: Attempt any three questions.		3 × 8 = 24
5.(a)	Describe major homeostatic functions of liver.	4
(b)	How does cytokinesis occur in animal cells? In which way does it differ from that in plant cells?	4
6.(a)	What are joints? Explain types of joints on the basis of structure.	4
(b)	Write a comprehensive account on ecological niche	4
7.(a)	What is feedback mechanism? Elaborate with an example.	4
(b)	Write a detailed note on evolution of prokaryotes.	4
8.(a)	Write causes and control of Sexually Transmitted Diseases(STD).	4
(b)	What is crossing over? Write its importance and mechanism.	4
9.(a)	Give a comprehensive note on embryonic induction and its role in development.	4
(b)	Discuss gene sequencing with its significance.	4

Paper Code Number: 4462		2025 (1 st -A) INTERMEDIATE PART-II (12 th Class)		Roll No: _____	
BIOLOGY PAPER-II GROUP-II					
TIME ALLOWED: 20 Minutes			OBJECTIVE	MAXIMUM MARKS: 17	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	The mechanism which eliminate nitrogenous waste is called:	Excretion	Thermoregulation	Osmoregulation	Hydrogenation
2	The active part of wood is called:	Hard wood	Soft wood	Heart wood	Sap wood
3	Which animal has hydrostatic skeleton?	Human	Snake	Sea anemone	Pigeon
4	If the biorhythms are of 365 days, these are called as:	Diurnal rhythms	Circannual rhythms	Circadian rhythms	Triurnal rhythms
5	Pain receptors are nearly _____ times more abundant than cold receptors.	27	10	37	47
6	Placenta is characteristic of:	Reptiles	Birds	Mammals	Insects
7	During gastrulation, the blastoderm split into two layers, the upper layer is called:	Epiblast	Hypoblast	Thecoblast	Endoderm
8	The particular array of chromosomes that an individual possesses is called:	Phenotype	Sciotype	Genotype	Karyotype
9	Replication always proceed in direction:	5' → 3'	3' → 5'	6' → 3'	3' → 6'
10	In humans, the average cell cycle is about:	30 min	9 hrs	24 hrs	48 hrs
11	The phenotypic ratio of monohybrid cross is:	1 : 2 : 1	3 : 1	9 : 3 : 3 : 1	1 : 0
12	Which of these is incorrectly matched?	Protoplast – plant cell engineering	RFLPS – DNA fingerprinting	DNA – Polymerase	DNA ligase – mapping human chromosome
13	Plasmids were discovered by investigators studying the sex life of bacterium called:	Escherichia coli	Salmonella	Pseudomonas	Plasmodium
14	The prokaryotes may have arisen more than _____ years ago.	6.5 million	2.5 million	4.5 million	3.5 million
15	Combination of many food chains is called:	Food web	Producers	Consumers	Decomposers
16	Fresh water ecosystem covers less than _____ % of aquatic ecosystem.	3	7	1	5
17	The soil of temperate deciduous forest is of colour.	Brown	Grey	Green	Grayish brown

Paper Code Number: 4464		2025 (1 st -A) INTERMEDIATE PART-II (12 th Class)		Roll No:	
BIOLOGY PAPER-II GROUP-II					
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Pain receptors are nearly _____ times more abundant than cold receptors.	27	10	37	47
2	Placenta is characteristic of:	Reptiles	Birds	Mammals	Insects
3	During gastrulation, the blastoderm split into two layers, the upper layer is called:	Epiblast	Hypoblast	Thecoblast	Endoderm
4	The particular array of chromosomes that an individual possesses is called:	Phenotype	Sciotype	Genotype	Karyotype
5	Replication always proceed in direction:	5' → 3'	3' → 5'	6' → 3'	3' → 6'
6	In humans, the average cell cycle is about:	30 min	9 hrs	24 hrs	48 hrs
7	The phenotypic ratio of monohybrid cross is:	1 : 2 : 1	3 : 1	9 : 3 : 3 : 1	1 : 0
8	Which of these is incorrectly matched?	Protoplast – plant cell engineering	RFLPS – DNA fingerprinting	DNA – Polymerase	DNA ligase – mapping human chromosome
9	Plasmids were discovered by investigators studying the sex life of bacterium called:	Escherichia coli	Salmonella	Pseudomonas	Plasmodium
10	The prokaryotes may have arisen more than _____ years ago.	6.5 million	2.5 million	4.5 million	3.5 million
11	Combination of many food chains is called:	Food web	Producers	Consumers	Decomposers
12	Fresh water ecosystem covers less than _____ % of aquatic ecosystem.	3	7	1	5
13	The soil of temperate deciduous forest is of colour.	Brown	Grey	Green	Grayish brown
14	The mechanism which eliminate nitrogenous waste is called:	Excretion	Thermoregulation	Osmoregulation	Hydrogenation
15	The active part of wood is called:	Hard wood	Soft wood	Heart wood	Sap wood
16	Which animal has hydrostatic skeleton?	Human	Snake	Sea anemone	Pigeon
17	If the biorhythms are of 365 days, these are called as:	Diurnal rhythms	Circannual rhythms	Circadian rhythms	Triurnal rhythms

Paper Code Number: 4466		2025 (1 st -A) INTERMEDIATE PART-II (12 th Class)		Roll No: _____	
BIOLOGY PAPER-II GROUP-II					
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Replication always proceed in direction:	5' → 3'	3' → 5'	6' → 3'	3' → 6'
2	In humans, the average cell cycle is about:	30 min	9 hrs	24 hrs	48 hrs
3	The phenotypic ratio of monohybrid cross is:	1 : 2 : 1	3 : 1	9 : 3 : 3 : 1	1 : 0
4	Which of these is incorrectly matched?	Protoplast – plant cell engineering	RFLPS – DNA fingerprinting	DNA – Polymerase	DNA ligase – mapping human chromosome
5	Plasmids were discovered by investigators studying the sex life of bacterium called:	Escherichia coli	Salmonella	Pseudomonas	Plasmodium
6	The prokaryotes may have arisen more than ____ years ago.	6.5 million	2.5 million	4.5 million	3.5 million
7	Combination of many food chains is called:	Food web	Producers	Consumers	Decomposers
8	Fresh water ecosystem covers less than ____ % of aquatic ecosystem.	3	7	1	5
9	The soil of temperate deciduous forest is of colour.	Brown	Grey	Green	Grayish brown
10	The mechanism which eliminate nitrogenous waste is called:	Excretion	Thermoregulation	Osmoregulation	Hydrogenation
11	The active part of wood is called:	Hard wood	Soft wood	Heart wood	Sap wood
12	Which animal has hydrostatic skeleton?	Human	Snake	Sea anemone	Pigeon
13	If the biorhythms are of 365 days, these are called as:	Diurnal rhythms	Circannual rhythms	Circadian rhythms	Triurnal rhythms
14	Pain receptors are nearly ____ times more abundant than cold receptors.	27	10	37	47
15	Placenta is characteristic of:	Reptiles	Birds	Mammals	Insects
16	During gastrulation, the blastoderm split into two layers, the upper layer is called:	Epiblast	Hypoblast	Thecoblast	Endoderm
17	The particular array of chromosomes that an individual possesses is called:	Phenotype	Sciotype	Genotype	Karyotype

Paper Code Number: 4468		2025 (1 st -A) INTERMEDIATE PART-II (12 th Class)		Roll No:	
BIOLOGY PAPER-II GROUP-II					
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Which of these is incorrectly matched?	Protoplast – plant cell engineering	RFLPS – DNA fingerprinting	DNA – Polymerase	DNA ligase – mapping human chromosome
2	Plasmids were discovered by investigators studying the sex life of bacterium called:	Escherichia coli	Salmonella	Pseudomonas	Plasmodium
3	The prokaryotes may have arisen more than ____ years ago.	6.5 million	2.5 million	4.5 million	3.5 million
4	Combination of many food chains is called:	Food web	Producers	Consumers	Decomposers
5	Fresh water ecosystem covers less than ____ % of aquatic ecosystem.	3	7	1	5
6	The soil of temperate deciduous forest is of colour.	Brown	Grey	Green	Grayish brown
7	The mechanism which eliminate nitrogenous waste is called:	Excretion	Thermoregulation	Osmoregulation	Hydrogenation
8	The active part of wood is called:	Hard wood	Soft wood	Heart wood	Sap wood
9	Which animal has hydrostatic skeleton?	Human	Snake	Sea anemone	Pigeon
10	If the biorhythms are of 365 days, these are called as:	Diurnal rhythms	Circannual rhythms	Circadian rhythms	Triurnal rhythms
11	Pain receptors are nearly ____ times more abundant than cold receptors.	27	10	37	47
12	Placenta is characteristic of:	Reptiles	Birds	Mammals	Insects
13	During gastrulation, the blastoderm split into two layers, the upper layer is called:	Epiblast	Hypoblast	Thecoblast	Endoderm
14	The particular array of chromosomes that an individual possesses is called:	Phenotype	Sciotype	Genotype	Karyotype
15	Replication always proceed in direction:	5' → 3'	3' → 5'	6' → 3'	3' → 6'
16	In humans, the average cell cycle is about:	30 min	9 hrs	24 hrs	48 hrs
17	The phenotypic ratio of monohybrid cross is:	1 : 2 : 1	3 : 1	9 : 3 : 3 : 1	1 : 0