

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN
OBJECTIVE KEY FOR INTERMEDIATE ANNUAL EXAMINATION, 2021

Name of Subject: BIOLOGY

Session: 2020-2021

Group: 1st

Group: 2nd

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

Q. Nos	Paper Code 4462	Paper Code 4464	Paper Code 4466	Paper Code 4468
1	A	D	C	A
2	D	C	D	B
3	A	B	D	C
4	B	B	C	D
5	C	C	B	D
6	D	A	B	C
7	D	A	C	B
8	C	C	A	B
9	B	B	A	C
10	B	A	C	A
11	C	D	B	A
12	A	A	A	C
13	A	D	D	B
14	C	A	A	A
15	B	B	D	D
16	A	C	A	A
17	D	D	B	D
18				
19				
20				

سرٹیفکیٹ بابت تصحیح سوالیہ پرچہ مارکنگ Key

ہم نے مضمون بیالوجی پرچہ II گرپ I، II سکیم انٹر میڈیٹ سالانہ امتحان 2021 کا سوالیہ پرچہ انشائیہ و معروضی (Subjective & Objective) کو بنظر عمیق چیک کر لیا ہے یہ پرچہ ALP Syllabus 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 کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی معروضی (MCQs) Key کی بابت تصدیق کی جاتی ہے کہ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔ نیز سب ایگزامینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 30-07-2021

S.#	Name	Designation	Institution	Mobile No	Signature
1	Tariq Mehmood	A.P	Govt. Millat College	0303-6668181	Tariq
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Re-Checked By ہم نے درج بالا سوالیہ پرچہ (انشائیہ + معروضی) معروضی "Key" اور ہدایات کے حوالہ سے مکمل طور پر تلی کر لی ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔

1	M. Aslam Farooqi	Asst. Prof	Govt. Emerson College Multan	03337622487	M. Aslam
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INTERMEDIATE PART-II (12th CLASS)**BIOLOGY PAPER-II GROUP-I**

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 × 2 = 16**

- (i) Compare hypotonic and hypertonic solution.
- (ii) How arthropods and mammals overcome the problem of evaporative water loss?
- (iii) Write the formula of uric acid.
- (iv) What is the role of vacuole in generating turgor pressure in plant cells?
- (v) What are cartilaginous joints?
- (vi) How does shape of wing affect the type of flight in birds?
- (vii) What is climactric?
- (viii) Define apomixis.
- (ix) What is profundal zone?
- (x) Compare prairies and savanna.
- (xi) Define pollution. Write any two types of pollution.
- (xii) What are the harmful effects of lead compounds and carbon monoxide?

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

- (i) What are neuroglia?
- (ii) Define nerve impulse.
- (iii) Enlist hormones secreted by posterior lobe of pituitary gland.
- (iv) What are jumping genes?
- (v) Define probability. What is product rule?
- (vi) Define over dominance.
- (vii) What is recombinant DNA?
- (viii) What are plasmids? Give example.
- (ix) Write role of DNA Ligase.
- (x) Differentiate between population and community.
- (xi) Define ecological niche.
- (xii) Name six major terrestrial Biomes.

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

- (i) Differentiate between growth and development.
- (ii) Compare epiblast and hypoblast in gastrulation stage of chick development.
- (iii) What is the function of RNA polymerase in Transcription?
- (iv) What is Nucleosome?
- (v) What is "One gene one polypeptide" Hypothesis?
- (vi) Define cell cycle.
- (vii) Give the significance of Meiosis.
- (viii) State Endosymbiont Hypothesis.
- (ix) What are fossils? Where are they found?

SECTION-II**NOTE: Attempt any three questions.****3 x 8 = 24**

- 5.(a) Write a note on kidney problems and its cures. 4
- (b) What are acid rains? Write its effects. 4
- 6.(a) Describe different phases of repair process of simple fracture. 4
- (b) Describe the process of transcription. 4
- 7.(a) Discuss in detail the hormones produced by Anterior pituitary. 4
- (b) Write notes on the following: 4
 - (i) Eutrophication
 - (ii) Greenhouse effect
- 8.(a) Write a note on fruit set and fruit ripening. 4
- (b) What are multiple alleles? Explain with an example. 4
- 9.(a) Describe the process of Neurulation in chick development. 4
- (b) Discuss factors affecting gene frequency of population. 4

BIOLOGY PAPER-II GROUP-I

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 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. 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) The excretory product that requires minimum water for its elimination as compared to others is:
(A) Uric acid (B) Urea (C) Ammonia (D) Creatinine
- (2) Which of the following is called as Excretophore?
(A) Stem (B) Root (C) Leaf (D) Seed
- (3) Which of the following cells lack of secondary walls?
(A) Sclerenchyma (B) Collenchyma (C) Mesophyll (D) Vessels
- (4) Vertebrae of neck region are called:
(A) Lumbar (B) Thoracic (C) Cervical (D) Pelvic
- (5) The meristems that are found at the tips of roots and shoots are called:
(A) Lateral meristems (B) Intercalary meristems (C) Secondary meristems (D) Apical meristems
- (6) In Microcephaly, the individuals are born with small:
(A) Skull (B) Neck (C) Jaws (D) Vertebrae
- (7) Crossing over is occurred in:
(A) Zygotene (B) Pachytene (C) Leptotene (D) Diplotene
- (8) Down's syndrome has number of chromosomes:
(A) 47 (B) 45 (C) 46 (D) 44
- (9) The receptors which produce the sensation of pain are called:
(A) Chemo receptors (B) Photo receptors (C) Nociceptors (D) Thermo receptors
- (10) Parthenocarpy is artificially induced by adding:
(A) Auxins (B) Ethene (C) Abscissic acid (D) Gibberellins
- (11) Highly condensed portions of chromatin are called:
(A) Euchromatin (B) Chromatids (C) Centromere (D) Heterochromatin
- (12) Position of gene on chromosome is called:
(A) Allele (B) Genotype (C) Locus (D) Phenotype
- (13) The enzyme which is used to cut out the gene of interest, is called:
(A) DNA Ligase (B) Restriction Endonucleases (C) RNA Polymerase (D) DNA Polymerase
- (14) Archaeobacteria can tolerate temperature upto:
(A) 120°C (B) 122°C (C) 125°C (D) 115°C
- (15) The actual location of place, where an organism lives is called its:
(A) Niche (B) Environment (C) Biome (D) Habitat
- (16) In aquatic ecosystem near shore zone is called:
(A) Limnetic zone (B) Profundal zone (C) Littoral zone (D) Benthic zone
- (17) A treasure of all types of resources essential to maintain life on earth is:
(A) Environment (B) Water (C) Land (D) Sun

BIOLOGY PAPER-II GROUP-I

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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- (16) Vertebrae of neck region are called:

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BIOLOGY PAPER-II GROUP-I

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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BIOLOGY PAPER-II GROUP-I

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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 (A) Niche (B) Environment (C) Biome (D) Habitat

INTERMEDIATE PART-II (12th CLASS)**BIOLOGY PAPER-II GROUP-II**

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 × 2 = 16**

- (i) Distinguish Hypercalcemia from Hyperoxaluria.
- (ii) Define Nephron. Give its types.
- (iii) Define the term Heat Shock Proteins.
- (iv) Define hydrostatic skeleton by giving example.
- (v) What is osteoporosis? Give its causes.
- (vi) Differentiate Hinge joints from Ball and Socket Joints by giving examples.
- (vii) Compare haploid parthenogenesis and diploid parthenogenesis by giving examples.
- (viii) Define Genital Herpes.
- (ix) Give at least two differences of Limnetic and Littoral zones of Fresh Water Lake.
- (x) Distinguish Coniferous Alpine and Coniferous Boreal Forests.
- (xi) Define Ozone layer.
- (xii) Differentiate between Deforestation and Afforestation.

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

- (i) Write the functions of photoreceptors and chemoreceptors.
- (ii) What are sodium and potassium pumps?
- (iii) Name any four neurotransmitters, associated with co-ordination.
- (iv) Differentiate between sex chromosomes and autosomes.
- (v) What is hemophilia? Name its types.
- (vi) Enlist types of colourblindness.
- (vii) What is Polymerase Chain Reaction(PCR)?
- (viii) What are transgenic organisms?
- (ix) Define bioreactors. Name two products of bioreactors.
- (x) Differentiate between endoparasites and ectoparasites.
- (xi) What is symbiosis? Give one example.
- (xii) Differentiate between predator and prey.

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

- (i) Differentiate between neurula and neurulation.
- (ii) Define discoidal cleavage.
- (iii) Write down structural formulae of thymine and cytosine.
- (iv) What is phosphodiester bond?
- (v) Name three major classes of RNA.
- (vi) Define cell cycle; write names of its phases.
- (vii) What is Turner's syndrome?
- (viii) Define theory of natural selection.
- (ix) What is genetic drift?

SECTION-II

NOTE: Attempt any three questions.

3 × 8 = 24

- 5.(a) Explain the Urea Cycle in detail. 4
- (b) Write a note on Food Web. 4
- 6.(a) Write note on disc slip and sciatica. 4
- (b) Write the experiment which proved that DNA replication is semi-conservative. 4
- 7.(a) Give an account of importance of forests. 4
- (b) Define Nerve impulse. How the action potential is initiated and conducted? 4
- 8.(a) Write a note on male reproductive system. 4
- (b) Write a note on Rh blood group system. 4
- 9.(a) Define and explain growth correlations. 4
- (b) Discuss evolution from Prokaryotes to Eukaryotes. 4

175

Paper Code

2021 (A)

Roll No. _____

Number:

4462

INTERMEDIATE PART-II (12th CLASS)**BIOLOGY PAPER-II GROUP-II**

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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Q.No.1

- (1) The central station of metabolism and metabolic clearing house of the body is:
(A) Liver (B) Stomach (C) Hypothalamus (D) Pancreas
- (2) Urine leaves the body through:
(A) Pelvis (B) Ureter (C) Urinary bladder (D) Urethra
- (3) Which of these are bone forming cells?
(A) Osteoblasts (B) Osteoclasts (C) Osteocytes (D) Chondrocytes
- (4) Which one is needed to break the link between myosin bridge and actin?
(A) Glucose (B) ATP (C) Creatine (D) Creatine phosphate
- (5) Excess thyroxine produces a condition called:
(A) Cretinism (B) Dwarfism (C) Grave's disease (D) Cushing's disease
- (6) Placental lactogen in human females is secreted by:
(A) Pituitary gland (B) Ovary (C) Corpus luteum (D) Placenta
- (7) Notochord is one of the few prominent structures seen in the embryo of:
(A) 24 hours (B) 22 hours (C) 20 hours (D) 18 hours
- (8) Grey vegetal cytoplasm of ascidian egg gives rise to:
(A) Notochord (B) Muscle cells (C) Gut (D) Epidermis
- (9) TTGACA binding site in prokaryotes is called:
(A) -25 sequence (B) -35 sequence (C) -10 sequence (D) -75 sequence
- (10) The paired chromosomes start to separate during:
(A) Diakinesis (B) Diplotene (C) Pachytene (D) Zygotene
- (11) Individuals having 45 chromosomes with one missing "X" chromosome are affected by:
(A) Down's syndrome (B) Klinefelter's syndrome (C) Turner's syndrome (D) Edward's syndrome
- (12) MN blood type is an example of:
(A) Codominance (B) Over dominance (C) Incomplete dominance (D) Complete dominance
- (13) Plasmids were discovered while studying the sex life of:
(A) E. Coli (B) Hyphomicrobium (C) Vibrio (D) Mycobacterium
- (14) A respiratory protein found in all aerobic species is:
(A) Cytochrome 'a' (B) Cytochrome 'b' (C) Cytochrome 'c' (D) Cytochrome 'f'
- (15) The actual location of an organism is called:
(A) Niche (B) Habitat (C) Ecosystem (D) Biosphere
- (16) The coniferous forests located at high altitudes are called:
(A) Alpine (B) Boreal (C) Taiga (D) Savanna
- (17) Which of these is a green house gas?
(A) Sulphur dioxide (B) Nitric oxide (C) Carbon monoxide (D) Carbon dioxide

BIOLOGY PAPER-II GROUP-I

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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(A) Skull	(B) Neck	(C) Jaws	(D) Vertebrae
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- (2) Crossing over is occurred in:

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(A) 47	(B) 45	(C) 46	(D) 44
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- (6) Highly condensed portions of chromatin are called:

(A) Euchromatin	(B) Chromatids	(C) Centromere	(D) Heterochromatin
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- (7) Position of gene on chromosome is called:

(A) Allele	(B) Genotype	(C) Locus	(D) Phenotype
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- (8) The enzyme which is used to cut out the gene of interest, is called:

(A) DNA Ligase	(B) Restriction Endonucleases	(C) RNA Polymerase	(D) DNA Polymerase
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- (9) Archaeobacteria can tolerate temperature upto:

(A) 120° C	(B) 122° C	(C) 125° C	(D) 115° C
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- (10) The actual location of place, where an organism lives is called its:

(A) Niche	(B) Environment	(C) Biome	(D) Habitat
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- (11) In aquatic ecosystem near shore zone is called:

(A) Limnetic zone	(B) Profundal zone	(C) Littoral zone	(D) Benthic zone
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- (12) A treasure of all types of resources essential to maintain life on earth is:

(A) Environment	(B) Water	(C) Land	(D) Sun
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- (13) The excretory product that requires minimum water for its elimination as compared to others is:

(A) Uric acid	(B) Urea	(C) Ammonia	(D) Creatinine
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- (14) Which of the following is called as Excretophore?

(A) Stem	(B) Root	(C) Leaf	(D) Seed
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- (15) Which of the following cells lack of secondary walls?

(A) Sclerenchyma	(B) Collenchyma	(C) Mesophyll	(D) Vessels
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- (16) Vertebrae of neck region are called:

(A) Lumber	(B) Thoracic	(C) Cervical	(D) Pelvic
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- (17) The meristems that are found at the tips of roots and shoots are called:

(A) Lateral meristems	(B) Intercalary meristems	(C) Secondary meristems	(D) Apical meristems
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BIOLOGY PAPER-II GROUP-II

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 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. 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) Excess thyroxine produces a condition called:
(A) Cretinism (B) Dwarfism (C) Grave's disease (D) Cushing's disease
- (2) Placental lactogen in human females is secreted by:
(A) Pituitary gland (B) Ovary (C) Corpus luteum (D) Placenta
- (3) Notochord is one of the few prominent structures seen in the embryo of:
(A) 24 hours (B) 22 hours (C) 20 hours (D) 18 hours
- (4) Grey vegetal cytoplasm of ascidian egg gives rise to:
(A) Notochord (B) Muscle cells (C) Gut (D) Epidermis
- (5) TTGACA binding site in prokaryotes is called:
(A) -25 sequence (B) -35 sequence (C) -10 sequence (D) -75 sequence
- (6) The paired chromosomes start to separate during:
(A) Diakinesis (B) Diplotene (C) Pachytene (D) Zygotene
- (7) Individuals having 45 chromosomes with one missing "X" chromosome are affected by:
(A) Down's syndrome (B) Klinefelter's syndrome (C) Turner's syndrome (D) Edward's syndrome
- (8) MN blood type is an example of:
(A) Codominance (B) Over dominance (C) Incomplete dominance (D) Complete dominance
- (9) Plasmids were discovered while studying the sex life of:
(A) E. Coli (B) Hyphomicrobium (C) Vibrio (D) Mycobacterium
- (10) A respiratory protein found in all aerobic species is:
(A) Cytochrome 'a' (B) Cytochrome 'b' (C) Cytochrome 'c' (D) Cytochrome 'f'
- (11) The actual location of an organism is called:
(A) Niche (B) Habitat (C) Ecosystem (D) Biosphere
- (12) The coniferous forests located at high altitudes are called:
(A) Alpine (B) Boreal (C) Taiga (D) Savanna
- (13) Which of these is a green house gas?
(A) Sulphur dioxide (B) Nitric oxide (C) Carbon monoxide (D) Carbon dioxide
- (14) The central station of metabolism and metabolic clearing house of the body is:
(A) Liver (B) Stomach (C) Hypothalamus (D) Pancreas
- (15) Urine leaves the body through:
(A) Pelvis (B) Ureter (C) Urinary bladder (D) Urethra
- (16) Which of these are bone forming cells?
(A) Osteoblasts (B) Osteoclasts (C) Osteocytes (D) Chondrocytes
- (17) Which one is needed to break the link between myosin bridge and actin?
(A) Glucose (B) ATP (C) Creatine (D) Creatine phosphate

BIOLOGY PAPER-II GROUP-II

TIME ALLOWED: 20 Minutes

OBJECTIVE

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