BIOLOGY SSC--II
SECTION - A (Marks 12)

NOTE: Section-A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 20 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

(i) In woody stems and mature roots, the gaseous exchange takes place through:
   A. Stomata  B. Cuticle  C. Lenticel  D. General Surface

(ii) During unfavorable conditions, Amoeba reproduces asexually by:
   A. Binary Fission  B. Spore Formation  C. Fragmentation  D. Multiple Fission

(iii) The disease in which virus destroys white blood cells and results in loss of immunity against infections is called:
   A. Lung cancer  B. AIDS  C. Arteriosclerosis  D. Pneumonia

(iv) Which of the following nervous systems is responsible for “Fight or Flight” response?
   A. Somatic  B. Sympathetic  C. Parasympathetic  D. Autonomic

(v) The opening of Larynx is called:
   A. Glottis  B. Epiglottis  C. Trachea  D. Pharynx

(vi) Acrylic acid produced by Bacillus bacteria is used in:
   A. Plastics  B. Cosmetics  C. Leather treatment  D. Vinegar

(vii) Digitalis, the cardiotoxic which is used to stimulate heart is made from the leaves of:
   A. Opium  B. Keekar  C. Foxglove  D. Cactus

(viii) How many genetically different kinds of gametes an individual with genotype AaBB can produce?
   A. 1  B. 2  C. 4  D. 8

(ix) All of the following are produced through Artificial selection from wild Mustard EXCEPT:
   A. Turnip  B. Kale  C. Kohirabi  D. Broccoli

(x) The number of cranial bones in skull is:
   A. 8  B. 14  C. 22  D. 26

(xi) The part of inner ear which contains receptors for hearing is called:
   A. Vestibule  B. Semicircular canals  C. Eustachian tube  D. Cochlea

(xii) Which one of the following is NOT true for biceps?
   A. These are Flexors  B. Relax during Flexion  C. Present on front of upper arm  D. Cause bending of arm

For Examiner's use only:

Total Marks: 12

Marks Obtained: __________

2SA 1910 (L)
بيلاگھی ایس انسر سی-11

حالت اول (گلی شمارہ 12)

وکت: 20 مین

سوال احراز

دو کن انتظامی معنا افتہ کے سب زیادہ معنی سے ترتیب کس کے طریقہ دکھایا گیا- جس کا ایک سپارا ہے?

(i)

(ii)

(iii)

(iv)

(v)

(vi)

(vii)

(viii)

(ix)

(x)

(xi)

(xii)

لیکن ایک سپارا کی جگہ کی کئی چیزیں کی جاتی ہیں?

AABB

کا کسی چیزیں کی جگہ کی کئی چیزیں کی جاتی ہیں?

کوئی نمبر کرکے چوگل چاہیے?

کا کسی چیزیں کی جگہ کی کئی چیزیں کی جاتی ہیں?

کا کسی چیزیں کی جگہ کی کئی چیزیں کی جاتی ہیں؟

کا کسی چیزیں کی جگہ کی کئی چیزیں کی جاتی ہیں?
**BIOLOGY SSC–II**

**Time allowed: 2:40 Hours**

**Total Marks Sections B and C: 53**

**NOTE:** Answer any eleven parts from Section ‘B’ and any two questions from Section ‘C’ on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

**SECTION – B (Marks 33)**

**Q. 2** Answer any ELEVEN parts. The answer to each part should not exceed 3 to 4 lines. (11 x 3 = 33)

(i) Give a comparison between the Inspired and the Expired air.

(ii) Define Xerophytes. Briefly write about their osmotic adjustments.

(iii) Name the parts of Hind Brain. Also write their location and one function of each.

(iv) Briefly explain Moveable Joints.

(v) Name and define three types of Arthritis.

(vi) What do you know about Corms and Bulb?

(vii) Write a short note on third whorl of a Flower.

(viii) How is Biotechnology important in the field of Medicine?

(ix) Write down the use of:
   a. Thymosin  b. Beta Endorphins  c. Interferons

(x) Briefly explain Narcotics and their uses.

(xi) What is the mode of Action of Vaccines?

(xii) Define:
   a. Guttation  
   b. Transcription  
   c. Eutrophication

(xiii) Differentiate between Alcoholic and Lactic acid Fermentation.

(xiv) What are the main sources of Variations in Sexually Reproducing Population?

(xv) Write the names and functions of glands in Reproductive System of Male Rabbit.

**SECTION – C (Marks 20)**

**Note:** Attempt any TWO questions. All questions carry equal marks. Also draw labelled diagrams where necessary. (2 x 10 = 20)

**Q. 3**

a. Explain the structure of a Nephron. Also draw labelled diagram of Nephron. (4+2)

b. Define Asthma. Write about its Causes, Symptoms and Treatment. (04)

**Q. 4**

a. Write a detailed account of Anterior and Posterior lobes of Pituitary gland. (4+3)

b. Define Co-dominance and explain with an example. (03)

**Q. 5** Explain different Steps of Nitrogen Cycle. Also draw the Nitrogen Cycle. (08+02)

--- 2SA 1910 (L) ---
پیالوجی ایس ایس سی-II

وقت: 2:40 کی گئی

دستورالعمل دوم اور سرم 53

(11x3=33)

حدرسوم (گلف پر 33)

(2x10=20)

(2+4)

(4+3)

(8+2)

(2+4)

(04)

(4+3)

(03)

(8+2)

(2+4)

(04)

(4+3)

(03)

(8+2)

(2+4)

(04)

(4+3)

(03)

(8+2)
Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

(i) The Gaseous exchange in Humans occur through:
A. Pharynx  B. Trachea  C. Bronchi  D. Alveoli

(ii) In a Food Chain, Grass → Grasshopper → Frog → Snake, the secondary consumer is:
A. Grasshopper  B. Frog  C. Snake  D. Grass

(iii) Gums are produced as waste material by:
A. Keekar  B. Lady Finger  C. Conifers  D. Rubber Plant

(iv) Which one of the following lobe of Cerebrum is concerned with smell and hearing?
A. Frontal  B. Parietal  C. Occipital  D. Temporal

(v) The Nervous system which controls conscious and voluntary actions is:
A. Somatic  B. Autonomic  C. Parasympathetic  D. Sympathetic

(vi) Which one of the following is NOT true about Ligaments?
A. Are strong  B. Are flexible bands  C. Join bone to bone  D. Are tough bands

(vii) The horizontal, elongated underground stems with scale leaves are called:
A. Corms  B. Bulb  C. Rhizome  D. Sucker

(viii) What are the chances of a baby to have blood group O, if the blood group of mother is O and that of father is AB?
A. Zero  B. 25%  C. 50%  D. 75%

(ix) ________ is used to dissolve blood clots in body.
A. Thymosin  B. Urokinase  C. Interferons  D. Beta endorphins

(x) The addictive drugs Mescaline and Psilocin are used as:
A. Sedatives  B. Analgesics  C. Narcotics  D. Hallucinogens

(xi) After injury ________ is used to stop bleeding and prevent infection.
A. Antitoxins  B. Aspirin  C. Vaccine  D. Silver Nitrate

(xii) Who proposed "The theory of Natural Selection"?
A. Mendel  B. Darwin  C. Lamarck  D. Buffon

Total Marks: 12
Marks Obtained: 

--- 2SA 1910 (ON) ---
پیالوجی ایس اس سی-II

وقت: 20 منٹ

سوال خلاصہ

(1) انسان کا گرو میں کچھ گرو ملاد کے نام کہا گیا ہے?

(2) آنزائن کی بیماری کا نام کہا گیا ہے?

(3) گریس میں کہا گیا ہے?

(4) فیلډز کا نام کہا گیا ہے?

(5) پیلی کی بیماری کا نام کہا گیا ہے?

(6) انسان کی بیماری کا نام کہا گیا ہے?

(7) گرو میں کچھ کا نام کہا گیا ہے?

(8) ہیٹس کے تحت ہونے والی بیماری کا نام کہا گیا ہے?

(9) انسان کی بیماری کا نام کہا گیا ہے?

(10) انسان کی بیماری کا نام کہا گیا ہے?

(11) انسان کی بیماری کا نام کہا گیا ہے?

(12) انسان کی بیماری کا نام کہا گیا ہے?

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جواب کے تعداد: 12

--- 28A 1910 (ON) ---
SECTION – B (Marks 33)

Q. 2 Answer any ELEVEN parts. The answer to each part should not exceed 3 to 4 lines. (11 x 3 = 33)

(i) Define and briefly explain Emphysema.
(ii) How does skin help to regulate body temperature in hot and cold weather? Write briefly.
(iii) Write a short note on Haemodialysis.
(iv) Define Pyramid. Briefly explain pyramid of Number.
(v) What is Commensalism? Briefly explain with an example.
(vi) Briefly explain Ammonification and Nitrification.
(vii) How Tetracycline and Cephalosporin interfere with bacterial growth?
(viii) Write any three differences between Inspiration and Expiration mechanism.
(ix) How does smoking affect the circulatory system?
(x) a. How do the kidneys Osmoregulate in case of water deficiency in the body?
   b. What is Lithotripsy?
(xi) Briefly explain Binary Fission in Eukaryotes and Invertebrates.
(xii) Define:
    a. Nucleosome
    b. Transcription
    c. Incomplete Dominance
(xiii) Complete the following table:

<table>
<thead>
<tr>
<th>Endocrine gland</th>
<th>Hormone</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>d) Calciton</td>
<td>g)</td>
</tr>
<tr>
<td>b)</td>
<td>e)</td>
<td>h) Development of Male secondary sex characters</td>
</tr>
<tr>
<td>c) Parathyroid</td>
<td>f)</td>
<td>i)</td>
</tr>
</tbody>
</table>

(xiv) Briefly write about human Appendicular Skeleton.
(xv) a. What are the adaptations in Insect Pollinated Flowers for Cross pollination? (any four)
   b. Name the Industrial product produced by *Bacillus* bacteria.

SECTION – C (Marks 20)

Note: Attempt any TWO questions. All questions carry equal marks. Also draw labelled diagrams where necessary. (2 x 10 = 20)

Q. 3 a. Explain the structure of Outer and Middle Ear in Humans. Also draw the diagram of ear. (3+2+2)
   b. Write about the different types of Cartilage. (03)

Q. 4 a. Describe basic steps of Genetic Engineering. Also draw the diagram. (5+2)
   b. How are drugs classified on the basis of their Chemical properties and Mode of action? (03)

Q. 5 a. Explain the processes of Spermatogenesis and Oogenesis in Animals. (3.5+3.5)
   b. Differentiate between Continuous and Discontinuous variations. (03)
وہ قلق میں جراحات نک دیں (11) کے نتیجے میں پاسٹرول کا سمجھا ہوا نہیں ہوگا:

(i) 
(ii) 
(iii) 
(iv) 
(v) 
(vi) 
(vii) 
(viii) 
(ix) 
(x) 
(xi) 
(xii) 
(xiii) 
(xiv) 
(xv) 

(2x10=20)