

2017 (A)

BIOLOGY-II (Zoology)

Full Marks - 35

Time - 1.5 Hours

The figures in the right hand margin indicate marks.

Instructions are given in each Group.

Illustrate your answer with labelled diagrams and examples wherever necessary

GROUP - A

Answer All questions serially

1. Choose the correct answer from the choices given under each bit. Answer in one word :

[1 × 5]

- (a) Which parasite causes amoebic dysentery ?
(i) E. Coli
(ii) A. Proteus
(iii) E. histolytica
(iv) P. vivax
- (b) Which antibody initiates allergic reactions ?
(i) Ig G
(ii) Ig D
(iii) Ig A
(iv) Ig E
- (c) Which hormone is secreted during emotional states such as fear, anger and pain ?
(i) Insulin
(ii) Thyroxine
(iii) Adrenaline
(iv) Oxytocin
- (d) What is conservation of biodiversity outside the natural habitat called as ?
(i) In-Situ
(ii) In-Vitro
(iii) In-Vivo
(iv) Ex-Situ
- (e) Which enzyme is used to join fragments of DNA ?
(i) Ligase
(ii) Polymerase
(iii) Endonuclease
(iv) Transferase

2. Fill up the blanks with correct answer(s) / Correct the underlined portion of the sentence :

- (a) The confirmative test for AIDS is blotting. [1×4=4]
(b) Red data book is published by .
(c) Cerebral Malaria is caused by Plasmodium vivax.
(d) The preservation of semen at very low temperature is called remediation.

GROUP - B

3. Answer any four of the following : [2×4=8]
(Restrict your answers to two or three important sentences each)

- (a) What is National Park ?
(b) What are the causes of female infertility ?
(c) Mention the causes of drug addiction.
(d) What is 'Algal bloom' ?
(e) Write the functions of placenta.
(f) What is Arbor Vitae ?
(g) What is Linkage ? Mention its Significance.
(h) Write the forensic applications of DNA fingerprinting.

4. Differentiate between any two of the following pairs : [3×2=6]

- (Restrict each answer three to four important sentences)
(a) Active immunity and passive immunity
(b) Vasectomy and Tubectomy
(c) Spermatogenesis and Oogenesis
(d) Down's Syndrome and Turner's Syndrome

GROUP - C

Answer any two of the following questions : [2×6=12]

5. Describe the structure and functions of human forebrain. [6]
6. What is sex-linked inheritance ? Explain the inheritance of colourblindness in man. [6]
7. Discuss the mechanism of conduction of nerve impulses along a nerve fibre. [6]
8. Write notes on any two of the following [3×2=6]
(a) AIDS
(b) Acid rain
(c) Radioactive waste
(d) Budding in Hydra

BIOLOGY-II (Zoology)

Full Marks - 35

Time - 2 Hours

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Instructions are given in each Group.

Illustrate your answer with labelled diagrams
and examples wherever necessary

GROUP - A

Answer All questions serially

1. Choose the correct answer from the choices given under each bit. Answer in one word :

[1 × 5]

- (a) During which stage of oogenesis the number of chromosomes is reduced to half ?
(i) Formation of first polar body
(ii) Formation of second polar body
(iii) Meiosis-II
(iv) Division of secondary oocyte
- (b) Which procedure is followed for amplification of DNA?
(i) Southern blotting
(ii) Electrophoresis
(iii) Autoradiography
(iv) Polymerase Chain Reaction
- (c) In which type of chromosomal aberration a submetacentric chromosome may be converted to a metacentric chromosome ?
(i) Deletion
(ii) Duplication
(iii) Paracentric Inversion
(iv) Pericentric Inversion
- (d) During conduction of nerve impulse, what causes repolarisation of nerves ?
(i) Influx of Sodium ions
(ii) Efflux of Sodium ions
(iii) Efflux of Potassium ions
(iv) Influx of both Sodium and Potassium ions
- (e) Which one of the following is not included under in-situ conservation ?
(i) National Park (ii) Wildlife Sanctuary
(iii) Zoological Garden (iv) Biosphere Reserve

2. Fill up the blanks with correct answer(s) / Correct the underlined portion of the sentence :

[1×4=4]

- (a) FSH and LH are secreted by _____ endocrine gland.
(b) Urea is synthesized in the _____ of man.
(c) The yellow coloured milk secreted by mother just after child birth is called neonatal milk.
(d) Increased 'algal bloom' in pond and lake due to excess of nutrients is a phenomenon called biological magnification.

GROUP - B

3. Answer any four of the following : [2×4=8]
(Restrict your answers to two or three important sentences each)

- (a) What is Autonomic Nervous System ?
(b) State the functions of Yolk.
(c) What are Interferons ?
(d) What is 'Criss-cross Inheritance' ?
(e) State the cause, symptoms and prevention of Filariasis.
(f) What is Bee wax ?
(g) What are benign and malignant tumours ?
(h) State the role of Insulin.

4. Differentiate between any two of the following pairs : [3×2=6]

(Restrict each answer three to four important sentences)

- (a) Asexual reproduction and sexual reproduction
(b) B-lymphocyte and T-lymphocyte
(c) Renewable and non-renewable resources
(d) Herbicides and Insecticides

GROUP - C

Answer any two of the following questions :

[2×6=12]

5. What do you understand by Reflex Action? Describe its structural components and mechanism. [6]
6. Give an account of the human male reproductive system. [6]
7. Discuss the chromosomal theory of sex determination in animals. [6]
8. Write notes on any two of the following [3×2=6]
(a) Diencephalon
(b) Barrier and surgical method of birth control
(c) Ozone depletion
(d) Feedback mechanism in hormone action

BIOLOGY-II (Zoology)

Full Marks - 35

Time - 2 Hours

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Instructions are given in each Group.

Illustrate your answer with labelled diagrams and examples wherever necessary

GROUP - A

Answer All questions serially

1. Choose the correct answer from the choices given under each bit. Answer in one word :

[1 × 5]

- (a) Which function / (s) is / (are) controlled by corpora quadrigemina ?
 (i) Auditory reflex
 (ii) Both vision and olfactory
 (iii) Both vision and auditory
 (iv) Heart beat
- (b) Which is not associated with vasopressin ?
 (i) Tabular reabsorption (ii) Vaso constriction
 (iii) Diabetes insipidus (iv) Diabetes mellitus
- (c) Which organ's outer covering is tunica albuginea ?
 (i) Ovary (ii) Testis
 (iii) Brain (iv) Kidney
- (d) Through which vector is *wuchereria bancrofti* transmitted ?
 (i) Aedes (ii) Anopheles
 (iii) Tse tse fly (iv) Culex
- (e) Which chromosome-linked genes do cause the genetic metabolic disorder Phenylketonuria (PKU) ?
 (i) Somatic recessive gene
 (ii) Somatic dominant gene
 (iii) X-linked gene
 (iv) Y-linked gene

2. Fill up the blanks with correct answer(s) / Correct the underlined portion of the sentence :

[1 × 4 = 4]

- (a) The hormone _____ stimulates the secretion of milk.

- (b) L.S.D. is a natural _____ drug.
 (c) The primary germ layers are formed during morula stage of embryonic development.
 (d) The genotypic ratio in F_2 generation of Mendel's monohybrid cross is 9 : 3 : 3 : 1.

GROUP - B

3. Answer any four of the following : [2 × 4 = 8]
 (Restrict your answers to two or three important sentences each)
- (a) How does asexual reproduction take place in sponges ?
 (b) How can AIDS be prevented ?
 (c) What is fertilization ? In man, where does it take place ?
 (d) What is biosphere reserve ? Mention its zones.
 (e) Write the possible causes of female infertility in relation to ovulation.
 (f) What are the sources of radioactive pollution ?
 (g) Write the symptoms of Down's syndrome.
 (h) What are restriction enzymes ? Mention their functions in recombinant DNA technology.

4. Differentiate between any two of the following pairs : [3 × 2 = 6]

(Restrict each answer three to four important sentences)

- (a) Corpus callosum and corpus luteum.
 (b) Insulin and Glucagon
 (c) Binary fission and Multiple fission
 (d) Inversion and Translocation

GROUP - C

Answer any two of the following questions : [2 × 6 = 12]

5. Explain the mechanism of conduction of impulses along nerve fibres. [6]
 6. What is sex-linked inheritance ? Discuss the inheritance of haemophilia in man. [6]
 7. What is immunity ? Give an account of cell-mediated immunity. [6]
 8. Write notes on any two of the following [3 × 2 = 6]
 (a) Oogenesis
 (b) Law of independent assortment
 (c) Biomagnification
 (d) Social life of honeybees

2014 (A) (SET-A)

BIOLOGY-II (Zoology)

Full Marks - 35

Time - 2 Hours

The figures in the right hand margin indicate marks.

Instructions are given in each Group.

Illustrate your answer with labelled diagrams
and examples wherever necessary.

GROUP - A

Answer All questions serially

1. Choose the correct answer from the choices given under each bit. Answer in one word :

[1 × 5

- (a) Which hormone is secreted by the Leyding Cells ?

(i) Vasopressin (ii) Gonadotropins
(iii) Oxytocin (iv) Testosterone

- (b) From which part of the spermatid is acrosome formed ?

(i) Nucleus (ii) Mitochondria
(iii) Golgi bodies (iv) Ribosome

- (c) Which is the infective stage of **Plasmodium falciparum** ?

(i) Sporozoite (ii) Trophozoite
(iii) Cryptozoite (iv) Merozoite

- (d) Which term did Mendel use to denote something in germ cells responsible for transmission of characters ?

(i) Chromosome (ii) Elemente
(iii) Factor (iv) Gene

- (e) Which one of the following phenomena is involved in the conduction of nerve impulse ?

(i) Biochemical (ii) Biophysical
(iii) Electrical (iv) Electrochemical

2. Fill up the blanks with correct answer(s) / Correct the underlined portion of the sentence :

[1×4=4

- (a) The fusion of male and female pronuclei is called _____.

- (b) Wildlife Protection Act was enacted in the year _____ by Government of India.

- (c) The giant honey bee, yielding maximum honey is Apis mellifera.

- (d) The genotype of a carrier of haemophilia is X^H X^h.

GROUP - B

3. Answer any four of the following : [2×4=8
(Restrict your answers to two or three important sentences each)

- (a) State the significance of crossingover.
(b) How is the AIDS provirus formed ?
(c) What is "Ozone Shield" ?
(d) How is tubectomy effective in birth control ?
(e) How are kidney stones formed ?
(f) What is BOD ?
(g) How does multiple fission occur in *Amoeba* ?
(h) What are the forensic applications of DNA finger printing ?

4. Differentiate between any two of the following pairs : [3×2=6

(Restrict each answer three to four important sentences)

- (a) Phenotype and genotype
(b) Active immunity and Passive immunity
(c) In-Situ conservation and Ex-Situ conservation
(d) Adenohypophysis and Neurohypophysis

GROUP - C

Answer any two of the following questions :

[2×6=12

5. Describe the structure and functions of human fore-brain. [6
6. Give an account of the human female reproductive system. [6
7. Explain the chromosomal basis of sex determination in animals. [6
8. Write notes on any two of the following [3×2=6
(a) Reflex action
(b) Innate immunity
(c) Greenhouse effect
(d) Inheritance of colour blindness in man

2013 (A)

BIOLOGY-II (Zoology)

Full Marks - 35

Time - 2 Hours

The figures in the right hand margin indicate marks.
Instructions are given in each Group.
Illustrate your answer with labelled diagrams
and examples wherever necessary

GROUP - A

Answer All questions serially

1. Choose the correct answer from the choices given under each bit. Answer in one word : [1 × 5]

(a) Which of the following prevents the blood to clot inside vessels ?

- (i) Prothrombin (ii) Calcium
(iii) Plasminogen (iv) Heparin

(b) Which types/type of cell division occur(s) in cells of testis at different phases of spermatogenesis ?

- (i) Only meiotic
(ii) Only mitotic
(iii) Both mitotic and meiotic
(iv) Amitotic

(c) Which of the following types of sex determination is found in grasshopper ?

- (i) XX Female and XY Male
(ii) ZW Female and ZZ Male
(iii) XX Female and XO Male
(iv) XX Male and XO Female

(d) Which enzyme helps in joining DNA fragments ?

(e) Which chemical substance takes part in synaptic transmission ?

2. Fill up the blanks with correct answer(s).

Correct the underlined portion of the sentence :

[1×4=4]

(a) _____ hormone stimulates corpus luteum of ovary to produce progesteron.

(b) _____ test is specifically employed to determine the presence of disease causing **Salmonella typhi**.

(c) Urea cycle of man was first postulated by Bantin and Best in 1932.

(d) While the enamel of teeth is formed from mesoderm, the dentine is formed from endoderm.

GROUP - B

3. Answer any four of the following : [2×4=8]
(restrict your answers to two or three important sentences each)

- (a) Explain "ammonotelism" with example.
(b) What is erythroblastosis foetalis ?
(c) Write the functions of placenta.
(d) What is inversion ? What are its types ?
(e) Explain "Immunity theory" of ageing.
(f) Explain the use of anthrax in biowar.
(g) What is endoscopy ?
(h) How AIDS can be prevented ?

4. Differentiate between any two of the following pairs : [3×2=6]

(Restrict each answer three to four important sentences)

- (a) Unconditioned Reflex and Conditioned Reflex
(b) Diabetes mellitus and Diabetes insipidus
(c) Stimulant and Hallucinogens
(d) B-lymphocytes and T-lymphocytes

GROUP - C

Answer any two of the following questions :

[2×6=12]

5. Describe the internal structure of human heart with suitable diagram. [6]
6. What is sex-linked inheritance ? Explain the inheritance of haemophilia in man. [6]
7. Give an account of male reproductive system of man. [6]
8. Write notes on any two of the following [3×2=6]
- (a) Budding in hydra
(b) Depolarization and Repolarization
(c) Retina
(d) Leucocytes

2012 (A)

BIOLOGY - II (Zoology)

Full Marks - 35

Time - 2 Hours

The figures in the right hand margin indicate marks.
Instructions are given in each Group.
Illustrate your answer with labelled diagrams
and examples wherever necessary

GROUP - A

Answer All questions serially

1. Answer each of the following questions in one or few words : [1 × 5]
- (a) Persons of which blood group are universal recipients ?
 - (b) Name the muscles through which chordae tendinae are attached to the ventricular wall.
 - (c) Which test is conducted to identify HIV ?
 - (d) Disorder of which endocrine gland leads to Addison's disease ?
 - (e) Which germ layer forms the nervous system ?
2. Choose one correct answer from the choices given under each bit : [1 × 5]
- (a) On which day of normal menstrual cycle, ovulation occurs ?
(10th, 13th, 14th, 15th)
 - (b) During fertilization through which path the male pronucleus moves to meet the female pronucleus ?
(Penetration path, Copulation path, Migration path, Zygotic path)
 - (c) What term is used for the graft when transplantation occurs between two unrelated human beings ?
(Xenograft, Autograft, Isograft, Alograft)
 - (d) Which type of chromosomal aberration plays the most significant role in speciation ?
(Deletion, Translocation, Inversion, Duplication)
 - (e) Utilizing which animal Pavlov got Nobel Prize in 1904 for his work on conditioned reflex ?
(Rat, Cat, Dog, Monkey)

GROUP - B

Answer the following questions briefly, restricting the answer or each bit to 5 sentences

3. Answer any **five** of the following : [2×5 =10]
- (a) What are immunoglobulins ?
 - (b) Why are polar bodies formed in oogenesis but not in spermatogenesis ?
 - (c) In nervous system how grey matter is different from white matter ?
 - (d) What is Chiasma ?
 - (e) State the structural significance of human RBC.
 - (f) What is DNA fingerprinting ?
 - (g) What is CT scan ?
 - (h) What is meant by transgenic animal ?

GROUP - C

Answer any two questions.

- [7 1/2 × 2 = 15]
- 4. Describe the physiology of excretion in human being.
 - 5. Give an account of the chromosomal basis of sex determination.
 - 6. Write notes on any **three** of the following :
 - (a) Cardiac cycle
 - (b) Cerebral hemisphere of man
 - (c) Regeneration
 - (d) Cloning
 - (e) Types and causes of cancer
 - 7. Draw neat, labelled, full page diagram of any **one** of the following. (Description not required) :
 - (a) V.S. of human eye
 - (b) L.S. of human heart
 - (c) Human male reproductive system.

□○□

2011 (A)

BIOLOGY - II (Zoology)

Full Marks - 35

Time - 2 Hours

The figures in the right hand margin indicate marks.

Instructions are given in each Group.

Illustrate your answer with labelled diagrams and examples wherever necessary

GROUP - A

Answer All questions serially

1. Answer each of the following questions in a few words : [1 × 5]

- Which is the largest part of the brain ?
- Deficiency of which hormone causes diabetes ?
- Which test is required to diagnose Typhoid ?
- How many spermatids are produced from a single primary spermatocyte ?
- In which stage of development are the three germinal layers formed ?

2. Choose one correct answer from the choices given under each bit : [1 × 5]

- Who discovered ECG ?
(Hans Berger, Alexander, Einthoven, J.C. Bose)
- Generally, what is the site of fertilisation in human being ?
(Vagina, Uterus, Fallopian tube, Ovary)

(c) The study of which one is called 'Gerontology' ?

(Aging, Regeneration, Growth, Death)

(d) Which secretion is inhibited by alcohol ?

(ADH, Insulin, Oxytocin, Progesterone)

(e) Which value corresponds to 'Action potential' inside the membrane of a nerve fibre ?

(-60 mV, -80 mV, +20 mV, +30 mV)

GROUP - B

Answer the following questions briefly, restricting the answer or each bit to 5 sentences

3. Answer any *five* of the following : [2×5=10]

- Mention the origin and importance of T-cells.
- Explain 'dialysis'.
- What is Rh factor ? Write its importance.
- What is linkage ? Mention its significance.
- State the significance of fertilisation.
- What is 'Hypoglycaemia' ? Is it fatal ?
- Mention the risk of indiscriminate use of antibiotics.
- What is meant by 'biopiracy' ?

GROUP - C

Answer any two questions.

- Describe the internal structure and working of human heart. [7 1/2 × 2 = 15]
- What is sex-linked inheritance ? Discuss this taking colourblindness as an example.
- Write notes on any **three** of the following :
 - Seminiferous tubule
 - Reflex action
 - Retina
 - Back cross and Test cross
 - Placental
- Draw neat, labelled, full page diagram of any **one** of the following. (Description not required) :
 - Human Ear (Schematic diagram)
 - Ultrastructure of human sperm
 - Vertical section of kidney of man.

□○□

2010 (A)

BIOLOGY - II (Zoology)

Full Marks - 35

Time - 2 Hours

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The figures in the right hand margin indicate marks.

Instructions are given in each Group.

Illustrate your answer with labelled diagrams and examples wherever necessary

GROUP - A

Answer All questions serially

1. Answer each of the following questions in a few words : [1 × 5]
 - (a) Name the two hormones that inhibit ovulation.
 - (b) Which antigen / antigens are present on the surface of RBC of a person with 'AB' blood group ?
 - (c) Name the parasite blocking the lymphatics in human and name the disease caused by this parasite.
 - (d) Name the cell in the human body destroyed by HIV.
 - (e) What are the functions of corpora quadrigemina ?
2. Choose one correct answer from the choices given under each bit : [1 × 5]
 - (a) Which one is an invasive technique ?
(M.R.I., E.C.G., E.E.G., CT Scan)
 - (b) Which tissue is affected in sarcoma ?
(Epithelial, Muscular, Nervous, Connective)
 - (c) Which membrane supports the Organ of Corti ?
(Tympanic membrane, Tectorial membrane, Basilar membrane, Vestibular membrane)
 - (d) During conduction of nerve impulse, what causes repolarisation of nerves ?
(Influx of sodium ion, Efflux of sodium ion, Efflux of potassium ion, Influx of both sodium and potassium ion)
 - (e) Which procedure is followed for amplification of DNA ?
(Polymerase Chain Reaction, Southern blotting, Electrophoresis, Autoradiography)

GROUP - B

Answer the following questions briefly, restricting the answer or each bit to 5 sentences

3. Answer any five of the following : [2×5=10]
 - (a) State the functions of hypothalamus.
 - (b) Explain the phase of maturation in Oogenesis.
 - (c) What are interferons ?
 - (d) How do free radicals influence ageing ?
 - (e) What is 'bio-war' ?
 - (f) Write the function of placenta.
 - (g) Write the application of DNA fingerprinting in crime detection.
 - (h) Differentiate between Stimulants and Hallucinogens.

GROUP - C

Answer any two questions.

4. Describe the mechanism of urine formation in human body. [7 1/2×2=15]
5. Explain the chromosomal theory of sex-determination in animals.
6. Write short notes on any three of the following :
 - (a) Budding in Hydra
 - (b) Cardiac cycle
 - (c) Sexually transmitted diseases
 - (d) Cerebrum
 - (e) Feedback-mechanism in hormone action
7. Draw a neat, labelled full page diagram of any one of the following. (Description not required)
 - (a) Section of human eye (Schematic diagram)
 - (b) Human male reproductive system
 - (c) Internal structure of human heart.

□□□

2009 (A)

BIOLOGY - II (Zoology)

Full Marks - 35

Time - 2 Hours

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Instructions are given in each Group.

Illustrate your answer with labelled diagrams and examples wherever necessary

GROUP - A

Answer All questions serially

1. Answer each of the following questions in a few words : [1 × 5]
 - (a) Which vitamin is necessary for blood coagulation ?
 - (b) Which hormone is rich in iodine and which endocrine gland secretes it ?
 - (c) How many autosomes are present in a mature human sperm ?
 - (d) Which type of cancer occurs in lymph glands and lymph nodes ?
 - (e) Which nematode parasite causes elephantiasis in man ?
2. Choose one correct answer from the choices given under each bit : [1 × 5]
 - (a) Which blood cells contain carbonic anhydrase ?
(Erythrocytes, Leucocytes, Lymphocytes, Monocytes)
 - (b) What is the name of the excretory product in bird ?
(Ammonia, Urea, Uric acid, Guanine)
 - (c) Which gland is called Triple F or gland of flight, fight and fright ?
(Thyroid, Thymus, Pituitary, Adrenal)
 - (d) Which part of the eye is devoid of blood vessel ?
(Retina, Choroid, Cornea, Sclera)
 - (e) In which chromosome is the gene for haemophilia located ?
(X-chromosome, Y-chromosome, Autosome, Both X-chromosome and Y-chromosome)

GROUP - B

Answer the following questions briefly, restricting the answer or each bit to 5 sentences

3. Answer any **five** of the following : [2×5=10]
 - (a) Explain 'ABO blood group'.
 - (b) Write a note on ultrafiltration.
 - (c) Distinguish between amnion and chorion.
 - (d) Draw a neat labelled diagram of TS of mammalian spinal cord (description not required).
 - (e) What is gene cloning ?
 - (f) Explain monoclonal antibodies.
 - (g) What is Barr body ?
 - (h) How can AIDS be prevented ?

GROUP - C

Answer any two questions.

[7 1/2×2=15]

4. Describe the internal structure of human heart.
5. Give an account of human male reproductive system.
6. Write short notes on any **three** of the following :
 - (a) Colour blindness
 - (b) Reflex action
 - (c) Multiple fission
 - (d) Role of kidney in osmoregulation
 - (e) Sex determination in human
7. Draw a neat, labelled full page diagram of any **one** of the following. (Description not required)
 - (a) Human ear (schematic diagram)
 - (b) Vertical section of kidney of man
 - (c) Lateral view of human brain

□□□

2008 (A)

BIOLOGY - II (Zoology)

Full Marks - 35

Time - 2 Hours

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The figures in the right hand margin indicate marks.

Instructions are given in each Group.

Illustrate your answer with labelled diagrams and examples wherever necessary

GROUP - A

Answer All questions serially

1. Answer each of the following questions in a few words : [1 × 5]
 - (a) Which vein carries oxygenated blood ?
 - (b) Which hormone stimulates the secretion of milk ?
 - (c) How many pairs of cranial and spinal nerves are found in man ?
 - (d) What is the importance of Golgi body in spermatozoa ?
 - (e) What do you mean by LSD ?
2. Choose one correct answer from the choices given : [1 × 5]
 - (a) What is the genetic material of HIV ?
(DNA only, RNA only, both DNA and RNA, Nucleoproteins)
 - (b) Which of the following is specifically employed to determine the presence of *Salmonella typhi* ?
(ELISA, WIDAL, MRI, EEG)
 - (c) What are the totipotent cells of Planaria called ?
(neoblasts, sertoli cells, follicular cells, helper cells)
 - (d) Which hormone is secreted by the Leydig cells ?
(gonadotropins, oxytocin, vasopressin, testosterone)
 - (e) In sarcoma which tissue is affected ?
(blood, muscle, bone, skin)

GROUP - B

Answer the following questions briefly, restricting your answers to five sentences each.

3. Answer any **five** of the following : [2 × 5]
 - (a) Explain 'cardiac cycle'.
 - (b) What is ornithine cycle ?
 - (c) Distinguish between nephron and neuron.
 - (d) What is diabetes mellitus ? How is it different from diabetes insipidus ?
 - (e) Draw a neat, labelled diagram of graafian follicle. (Description not required)
 - (f) What is the utility of transgenic animals ?
 - (g) What is a chiasma ?
 - (h) What is the significance of ECG ?

GROUP - C

Answer any two questions.

4. Give an account of the process of urine formation in man. [2 × 7 1/2]
5. Describe the structure and functions of human fore-brain
6. Write short notes on any **three** of the following :
 - (a) Bonellia Viridis
 - (b) Colour blindness
 - (c) Leucocytes
 - (d) Organ of Corti
 - (e) Spermiogenesis.
7. Draw a neat, labelled full page diagram of any one of the following. (Description not required)
 - (a) Vertical section of human eye
 - (b) Human male reproductive system
 - (c) Longitudinal section of human heart.

□□□