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Q.P. Code : [07 OPT 01]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

First Year

Part III — Optometrics

GENERAL ANATOMY

Time : Three hours

Maximum : 100 marks

Neat labelled diagram must be drawn wherever necessary.

Answer ALL questions.

SECTION A — (20 × 1 = 20 marks)

Choose the correct answer :

1. Lesion in PONS may produce the syndrome called
 - (a) Weber's Syndrome
 - (b) Medical Medullary syndrome
 - (c) Raymond's syndrome
 - (d) Horner's syndrome.

2. The example for Flat bone is
 - (a) Scapula
 - (b) Femur
 - (c) Vertebrae
 - (d) Maxilla

3. Dangerous area of scalp is
- Connective tissue
 - Loose Aereolar tissue
 - Pericranium
 - Aponeurosis
4. The nerve which supplies stylohyoid muscle is
- Mylohyoid nerve
 - Anterior belly
 - Facial nerve
 - 1st cervical spinal nerve
5. The length of the naso lacrimal duct is
- 16 mm
 - 15 mm
 - 28 mm
 - 18 mm
6. Absence of sweating on face and neck is called
- Anhidrosis
 - Miosis
 - Ptosis
 - Enophthalmus
7. The example for condyloid joint is
- Temporomandibular joint
 - Elbow joint
 - Sternoclavicular joint
 - Shoulder joint

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8. Thrombosis of anterior spinal artery causes
- Lateral medullary syndrome
 - Weber's syndrome
 - Medial medullary syndrome
 - Syringomyelia
9. Boxer's muscle is
- Deltoid muscle
 - Biceps muscle
 - Brachialis
 - Serratus anterior muscle
10. Musician's nerve is
- Ulnar nerve
 - Radial nerve
 - Median nerve
 - Posterior interosseous nerve
11. The length of the cartilaginous part of Auditory tube is
- 24 mm
 - 22 mm
 - 20 mm
 - 26 mm

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12. Round window of tympanic cavity is otherwise called as
- (a) Fenestra cochleae
 - (b) Fenestra vestibuli
 - (c) Base of stapes
 - (d) Vault of the stapes
13. Coverings of testis includes following except
- (a) Cremarteric fascia
 - (b) Tunica vaginalis
 - (c) Tunica albuginiae
 - (d) Tunica vasculosa
14. The Longest cutaneous nerve of the body is
- (a) Radial nerve
 - (b) Saphenous nerve
 - (c) Femoral nerve
 - (d) Ulnar nerve
15. The diaphragm separates the base of left lung from the following except
- (a) Pancreas
 - (b) Stomach
 - (c) Liver (let lobe)
 - (d) Spleen
16. Branches of Arch of Aorta includes following except
- (a) Brachiocephalic
 - (b) Rt subclavian
 - (c) Left common carotid
 - (d) Left sub clavicular
17. Muscles forming pelvic diaphragm is
- (a) Levator Ani
 - (b) Gluteus maximus
 - (c) Transverse abdominis
 - (d) External oblique
18. The nerve supply to the sartorius muscle is
- (a) Obturator nerve
 - (b) Femoral nerve
 - (c) Inferior gluteal nerve
 - (d) Sciatic nerve
19. The longest cutaneous nerve of the body is
- (a) Femoral nerve
 - (b) Obturator nerve
 - (c) Saphanous nerve
 - (d) Sciatic nerve
20. The most commonly injured nerve of lower limb is
- (a) Tibial nerve
 - (b) Lateral plantar nerve
 - (c) Medial plantar nerve
 - (d) Common peroneal nerve

SECTION B — (5 × 6 = 30 marks)

Short notes.

21. (a) Functions of the skin.
Or
(b) Classification of synovial joints.
22. (a) Parts of the Limbic system.
Or
(b) Dislocation of shoulder joint.
23. (a) Nerves related to Psoas major.
Or
(b) Branches of abdominal aorta.
24. (a) Branches of Internal Iliac Artery.
Or
(b) Saphaneous nerve.
25. (a) Deltoid Ligament of Ankle joint.
Or
(b) Structures that cross Pelvic Brim.

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SECTION C — (5 × 10 = 50 marks)

Long questions.

26. (a) Write about cells, fibres and functions of connective tissue.
Or
(b) Write briefly about carpal tunnel syndrome and Dupuytren's contracture.
27. (a) Contents of superior mediastinum and middle mediastinum.
Or
(b) Write the differences between jejunum and ileum.
28. (a) Write the parts of Uterus, supports of uterus and causes of uterine prolapse.
Or
(b) Write briefly about structures in the roof of the femoral triangle and contents of femoral triangle.
29. (a) Branches of Internal and external carotid artery.
Or
(b) Branches of Glossopharyngeal nerve and branches of vagus nerve.

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30. (a) Structures that forming boundaries of popliteal fossa and structures contained in popliteal fossa.

Or

(b) Write briefly about constituent fibres of superior cerebellar peduncle and inferior cerebellar peduncle.

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Q.P. Code : [07 OPT 02]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

First Year

Part III — Optometrics

GENERAL PHYSIOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

SECTION A — (20 × 1 = 20 marks)

Select the most appropriate answers from the answers given.

1. A condition with decreased number of platelets in blood is known as
 - (a) thrombxytspenia
 - (b) anaemia
 - (c) heuspenia
 - (d) leucocytosis.

2. The specific Gravity of whole blood is
 - (a) 1.055 – 1.060
 - (b) 1.028 – 1.032
 - (c) 1.60 – 1.065
 - (d) 1.032 – 1.036.

3. The rate of Lymph flow is
 - (a) 0.5 – 1 ml / minute
 - (b) 1 to 1.5 ml / minute
 - (c) 1.5 – 2 ml / minute
 - (d) 2 to 2.5 ml / minute.
4. Oxygen consumed by heart at rest is
 - (a) 10 ml / minute
 - (b) 20 ml / minute
 - (c) 40 ml / minute
 - (d) 30 ml / minute.
5. Vitamin 'C' deficiency causes
 - (a) xerophthalmia
 - (b) pellagra
 - (c) beriberi
 - (d) scurvy.
6. The length of the large intestine is
 - (a) 1.2 meters
 - (b) 2.5 metres
 - (c) 1.5 metres
 - (d) 2.0 metres.
7. Temporary cessation of breathing is known as
 - (a) tachypnoea
 - (b) apnoea
 - (c) bradypnoea
 - (d) dyspnoea.

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8. The normal glomerulus filtration rate is
 - (a) 110 ml / min
 - (b) 120 ml / min
 - (c) 210 ml / min
 - (d) 130 ml / min.
9. Normal refractory function of the eye is
 - (a) emetropia
 - (b) ametropia
 - (c) myopia
 - (d) hypermetropia.
10. A condition of hypothyroidism appearing in adults is
 - (a) cretinism
 - (b) goitre
 - (c) myxoedema
 - (d) thyrotoxicosis.
11. AIDS was first detected in
 - (a) USA
 - (b) U.K.
 - (c) India
 - (d) Australia.
12. The pH of vaginal secretion is
 - (a) 3.8
 - (b) 4.8
 - (c) 5.8
 - (d) 6.8.
13. Normal Plasma ACTH level is
 - (a) 0.1 m. unit / 100 ml
 - (b) 0.3 m. unit / 100 ml
 - (c) 0.5 m. unit / 100 ml
 - (d) 0.4 m. unit / 100 ml.

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14. The following signs are commonly observed in case of Tetary except
- (a) Trousseau's sign
 - (b) Chrostek's sign
 - (c) Erb's sign
 - (d) Babinski's sign.
15. The length of the trachea is
- (a) 12 cm
 - (b) 14 cm
 - (c) 16 cm
 - (d) 22 cm.
16. Oxygen capacity of 1 gm of Hb is
- (a) 1.34 ml O₂
 - (b) 1.24 ml O₂
 - (c) 2.14 ml O₂
 - (d) 2.34 ml O₂.
17. Normal WBC count is
- (a) 3,000 - 5,000 / cmm
 - (b) 5,000 - 7,000 / cmm
 - (c) 5,000 - 8,000 / cmm
 - (d) 4,000 - 6,000 / cmm.
18. pH value of Lactimal secretin is
- (a) 7.25
 - (b) 7.35
 - (c) 7.45
 - (d) 7.55.
19. pH value of urine normally varies from
- (a) 4.8 - 7.5
 - (b) 4.5 - 5.5
 - (c) 5.5 - 6.5
 - (d) 6.5 - 7.5.
20. The amount of air left behind in the lung at the end of deep expiration is known as
- (a) minimal volume
 - (b) residual volume
 - (c) supplement volume
 - (d) complementental volume.
- SECTION B — (5 × 6 = 30 marks)
21. (a) Chemical composition of the muscle.
- Or
- (b) Functions of Leucocytes.
22. (a) Function of Lymphatic system.
- Or
- (b) Functions of Bile.
23. (a) Functions of phospholipids.
- Or
- (b) Functions of bones.

24. (a) Deep Reflexes.

Or

(b) Functions of thalamus.

25. (a) Functions of Placenta.

Or

(b) Functions of kidney.

SECTION C — (5 × 10 = 50 marks)

Long answers.

26. (a) Functions of blood.

Or

(b) Functions of spleen.

27. (a) Explain about basal metabolic rate.

Or

(b) Write briefly about aurite renal failure.

28. (a) Write about the functions of skin.

Or

(b) Write in detail about mid brain.

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29. (a) Write briefly about formation, composition and absorption of C.S.F.

Or

(b) Signs and symptoms of hyperthyroidism.

30. (a) Write briefly about synthesis and actions of adrenaline.

Or

(b) Functions of oestrogens.

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Q.P. Code : [07 OPT 03]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

First Year

Part III — Optometrics

OPTICS AND REFRACTION

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

SECTION A — (20 × 1 = 20 marks)

Multiple choice question with no choice.

1. Crystalline lens absorbs light rays shorter than
 - (a) 295 nm
 - (b) 350 nm
 - (c) 390 nm
 - (d) 490 nm

2. The critical angle refers to the angle of incidence in denser medium corresponding to which angle of refraction in the rarer medium is
 - (a) Less than 90°
 - (b) 90°
 - (c) More than 90°
 - (d) Equal to angle of incidence

3. In the media of the eye, highest refractive index is of the
- (a) Cornea
 - (b) Aqueous humor
 - (c) Lens
 - (d) Vitreous humor
4. The visual axis of the eye meet the retina at a point which
- (a) Coincides with the fovea centralis
 - (b) In nasal to fovea centralis
 - (c) Is nasal to optic disc
 - (d) Is temporal to fovea centralis
5. The most common types if refractive error is
- (a) Hypermetropia
 - (b) Myopia
 - (c) Astigmatism
 - (d) None of the above
6. One millimeter increase in the radius of curvature of corner leads to hypermetropia of
- | | |
|--------|--------|
| (a) 3D | (b) 4D |
| (c) 5D | (d) 6D |
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7. An aphake wearing aphakic glasses will most commonly notice
- (a) Pincushion distortion
 - (b) Spherical aserration
 - (c) Barrel distortion
 - (d) Chromatic aserration
8. Because of circle of least diffusion the distant vision is comparatively good in
- (a) Simple myopic astigmatism
 - (b) Compound myopic astigmatism
 - (c) Mixed astigmatism
 - (d) Compound hypermetropic astigmatism
9. Causes of premature presbyopia included all of the following except
- (a) General debility
 - (b) Primary open angle glaucoma
 - (c) Uncorrected myopia
 - (d) Premature sclerosis of the lens
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10. Bilateral paralysis of accommodation can occur in patient with
- (a) Diphtheria (b) TB
(c) Malaria (d) Mumps
11. The most long acting cycloplegic drug is
- (a) Atropine (b) Tropicamide
(c) Cyclopentolate (d) Homatropine
12. All of the following are true about autorefraction except
- (a) Quick procedure
(b) Gives information about spherical and cylindrical error
(c) Measures inter papillary distance
(d) Subjective verifications of refraction is not required
13. The principle of the stenopaic SGT test is based on
- (a) Astigmatic fan
(b) The circle of least diffusion
(c) Pin hole phenomenon
(d) Struven's conoid
14. Excessive accommodation causes
- (a) Hypermetropia
(b) Myopia
(c) Pseudomyopia
(d) Pseudo hypermetropia
15. Contact lens is best used in
- (a) High myopia
(b) Irregular astigmatism
(c) Aphakia
(d) Regular astigmatism
16. Hard contact lenses are made of
- (a) HMMA (b) PMMA
(c) Silicone (d) Glass
17. A difference in the size of two retinal image which can be well tolerated is
- (a) 2% (b) 3%
(c) 5% (d) 10%

18. Sturm's conoid refers to configurations of the rays refracted through

- (a) Concave spherical surface
- (b) Convex spherical
- (c) Tonic surface
- (d) Irregular surface

19. In an aphakic eye posterior focal point from the back of cornea is asont.

- (a) 23 mm
- (b) 25 mm
- (c) 31 mm
- (d) 21 mm

20. At birth eye is usually

- (a) Hypermetropic
- (b) Myopic
- (c) Emmetropic
- (d) Aniseikonic

SECTION B — (5 × 6 = 30 marks)

Short notes :

21. (a) Sturm's conoid.

Or

(b) Chromatic aberration.

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22. (a) Classification of Regular astigmatism.

Or

(b) Refraction of aphakic.

23. (a) Mechanism of accommodation.

Or

(b) Cycloplegic drugs.

24. (a) Anisometropia.

Or

(b) Anisokonia.

25. (a) Jackson's crossed cylinder.

Or

(b) Investigation of heterophoria.

SECTION C — (5 × 10 = 50 marks)

Essay :

26. (a) Define hyper metropia, clinical types, signs and symptoms and treatment of hyper metropia.

Or

(b) Write in detail about low vision aids.

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27. (a) Write in detail about objective and subjective verifications of refraction.

Or

(b) Various physiological optical defects in eye.

28. (a) Various pathological optical defects in eye.

Or

(b) What is the need of accommodations and various anomalies of accommodation?

29. (a) What are the special types of spectacles?

Or

(b) Various optical applications of contact lens advantages and disadvantages of contact lens.

30. (a) Define astigmatism clinical type and sign and symptoms of astigmatism.

Or

(b) Write in detail about aphakia.

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Q.P. Code : [07 OPT 07]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

Second Year

Part III — Optometrics

PHARMACOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

SECTION A — (20 × 1 = 20 marks)

Choose the correct answer :

1. Principles of clinical drug evaluation that apply to medicine is
 - (a) clinical pharmacology
 - (b) drug
 - (c) pharmacy
 - (d) pharmaco dynamics.
2. The drug example for alkaloid is
 - (a) insulin
 - (b) morphine
 - (c) penicillin
 - (d) mentol.

3. When the drug is introduced in the subarachnoid space it is called as
 - (a) intravenous
 - (b) intraasticular
 - (c) intrathecal
 - (d) intraarterial.
4. Parenteral administration includes following except
 - (a) subcutaneous
 - (b) intramusculars
 - (c) intravenous
 - (d) sublingual.
5. An aqueous preparation containing insoluble material for external application is called
 - (a) lotion
 - (b) ointment
 - (c) emulsion
 - (d) solution.
6. Anti hypertensive drug includes following except:
 - (a) methyldipa
 - (b) basbitryate
 - (c) reserpine
 - (d) propranolol.
7. It is a congenital deformity in which long bones are rudimentary
 - (a) iatrogenic disease
 - (b) auto immune reaction
 - (c) phocomelia
 - (d) hypersensitivity.

8. Prevention of disease as well as prevention of infection by chemical agent is known as
- chemoprophylaxis
 - chemotherapy
 - pharmacotherapy
 - pharmacokinetics.
9. Drugs blocking nerve conduction when applied locally is
- general anaesthesia
 - local anaesthesia
 - spinal anaesthetics
 - regional anaesthetics.
10. Antidotes for narcotics
- nalorphine
 - neostigmine
 - vitamin K
 - analeptics.
11. Atropine is a drug of
- miotics
 - anti glaucoma agent
 - mydriatics
 - alpha blocker.
12. Transfer of a drug from the site of administration to the blood is known as
- absorption
 - solubility
 - hydrolysis
 - dilution.
13. Drugs which improve quality and quantity of RBC is
- haematinics
 - plasma substitutes
 - emetics
 - antiemetics.
14. Drugs used to increase the secretion of urine
- emetics
 - diuretics
 - anorexiant
 - detergents.
15. Nystatin is example for
- antiviral
 - anti emetics
 - anti fungal antibiotics
 - antimalarial.
16. Chloroquine is example for
- anthelmintics
 - emetics
 - antibiotics
 - antimalarial.
17. Drugs which promote protein anabolism is
- anabolic
 - detergents
 - antibiotics
 - antiviral agents.

18. Drugs used to suppress immune reaction are called as

- (a) Immuno suppressive agents
- (b) Immune agents
- (c) Antiseptics
- (d) Disinfectants.

19. The measure of the tendency of the drug to combine with the receptors is

- (a) agonist
- (b) affinity
- (c) anta gonist
- (d) efficacy.

20. Agents which promotes skin pigmentation is

- (a) demelanising agents
- (b) cleansing agents
- (c) melanising agents
- (d) debridement agents.

SECTION B — (5 × 6 = 30 marks)

Short notes

21. (a) Sources of drugs.

Or

(b) Uses of prodrugs

22. (a) Dangers of drug therapy.

Or

(b) Routes of excretion of drugs.

23. (a) Classification of anti rheumatic drugs.

Or

(b) Toxicity of antidepressants.

24. (a) Drugs used in urinary tract infection.

Or

(b) Uses of α contra indication of purgatives.

25. (a) Uses of cortisone.

Or

(b) Metabolic functions of Vitamin C.

SECTION C — (5 × 10 = 50 marks)

Long questions.

26. (a) Factors influencing drug metabolism.

Or

(b) Classification of analogesics.

27. (a) Factors determining drug action.

Or

(b) Modes of administration of drug.

28. (a) Anti glaucoma agents.

Or

(b) Respiratory stimulants.

29. (a) Classification of antiseptics.

Or

(b) Classification of antiepileptic drugs.

30. (a) Drugs used in mental disorders.

Or

(b) Effects of digitalis in congestive cardiac failure.

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Q.P. Code : [07 OPT 06]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

Second Year

Part III — Optometrics

NUTRITION

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

SECTION A — (20 × 1 = 20 marks)

Choose the correct answers :

1. Caloric requirement for a pregnant women per day is
(a) 2300 KCal (b) 2400 KCal
(c) 2700 KCal (d) 2800 KCal
2. Daily requirement of Vitamin A for Infant is
(a) 300 – 400 IV (b) 300 – 600 IV
(c) 400 – 600 IV (d) 750 IV.

3. Protein content of an egg is
(a) 4 gm (b) 6 gm
(c) 8 gm (d) 10 gm.
4. Caloric requirement for the sedentary male worker is
(a) 2400 KCal/day (b) 2300 KCal/day
(c) 2000 KCal/day (d) 2700 KCal/day.
5. Daily requirement of vitamin 'C' for an adult is
(a) 30 mg (b) 40 mg
(c) 50 mg (d) 60 mg.
6. Daily requirement of calcium for the following women is
(a) 0.5 gm (b) 0.6 gm
(c) 0.8 gm (d) 1 gm.
7. Iron requirement for the pregnant women is
(a) 40 mg/day (b) 20 mg/day
(c) 30 mg/day (d) 50 mg/day.
8. The milk production by the lactating mother is
(a) 650 ml/day (b) 750 ml/day
(c) 850 ml/day (d) 950 ml/day.

9. The concentration of protein in colostrum
- (a) 5.5% (b) 6.5%
 (c) 7.5% (d) 8.5%
10. Applied Nutrition Programme was started in the year
- (a) 1963 (b) 1973
 (c) 1983 (d) 1953.
11. Specific gravity of sahiva is
- (a) 1.004 – 1.008 (b) 1.002 to 1.004
 (c) 1.004 – 1.006 (d) 1.006 to 1.010.
12. 16 ounce is equal to
- (a) 1 dram (b) 1 pint
 (c) 1 gallon (d) 1 pound.
13. National Goitre Control Programme was started in the year
- (a) 1942 (b) 1952
 (c) 1962 (d) 1972.
14. The amount of sugar in cow's milk compares to human milk is
- (a) low (b) high
 (c) equal (d) none of the above.
15. The daily requirement of iron for the old people is
- (a) 20 mg (b) 30 mg
 (c) 40 mg (d) 50 mg.
16. Daily requirement of potassium is
- (a) 1-2 gm (b) 2-4 gm
 (c) 3-4 gm (d) 2-3 gm.
17. Increased calcium level is called as
- (a) hypokalaemia (b) hypocalcaemia
 (c) hyperkalaemia (d) hypercalcaemia.
18. Daily requirement of pyridoxine is
- (a) 2 mg (b) 4 mg
 (c) 6 mg (d) 8 mg.
19. Chemical name of Vitamin B₁ (Thiamine) is
- (a) aneurine (b) Flavone
 (c) calciferol (d) tocopherol.
20. Vitamin D is chemically known as
- (a) retinol (b) alinine
 (c) calciferol (d) pyridoxine.

SECTION B — (5 × 6 = 30 marks)

Short notes on :

21. (a) Classification of protein.

Or

- (b) Functions and sources of protein.

22. (a) Classification of fat.

Or

- (b) Functions of fat.

23. (a) Functions and sources of vitamin A.

Or

- (b) Sources of Vitamin B₁.

24. (a) Curative effect of B₆.

Or

- (b) Types of Diet.

25. (a) Factors affecting calcium absorption.

Or

- (b) Functions of water.

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SECTION C — (5 × 10 = 50 marks)

Long questions :

26. (a) Classification of carbohydrates.

Or

- (b) Functions and sources of carbohydrates.

27. (a) Supplementary feeding programme.

Or

- (b) Methods of cooking.

28. (a) Cooking Tip – Write in detail.

Or

- (b) Write about functions of Saliva and write briefly about functions of stomach.

29. (a) Write briefly about preparation of Egg.

Or

- (b) Write briefly about weaning.

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30. (a) Write about Sources, Functions, Daily requirement and Deficiency diseases of Vitamin B₁₂.

Or

(b) Write about Sources, Functions, Daily requirement and Deficiency diseases of Vitamin C.

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Q.P. Code : [07 OPT 04]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

Second Year

Part III — Optometrics

OCULAR ANATOMY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

SECTION A — (20 × 1 = 20 marks)

Choose the correct answer :

1. The antero posterior diameter of the eyeball is
- | | |
|-------------|-------------|
| (a) 23 mm | (b) 24 mm |
| (c) 23.5 mm | (d) 24.5 mm |
2. The parts of the sclera includes following except
- | | |
|-------------------|------------------|
| (a) Limbus | (b) Episclera |
| (c) Sclera proper | (d) Lamina fusca |

3. Choroid is

- | | |
|----------------------|-----------------------|
| (a) vascular layer | (b) muscular layer |
| (c) membranous layer | (d) crystalline layer |

4. The outer vessel layer of choroid is

- | | |
|------------|------------------------|
| (a) satler | (b) chorio-capillaries |
| (c) haller | (d) basal-lamina |

5. The total number of rods are about

- | | |
|------------------|------------------|
| (a) 12.5 million | (b) 11.5 million |
| (c) 12 million | (d) 10.5 million |

6. The nerve supply to the conjunctiva is by

- | | |
|-----------------|-----------------|
| (a) 2nd cranial | (b) 3rd cranial |
| (c) 5th cranial | (d) 4th cranial |

7. The length of the optic Foramina is

- | | |
|-------------|--------------|
| (a) 4-10 mm | (b) 6-8 mm |
| (c) 8-10 mm | (d) 10-12 mm |

8. The nerve supply of the extraocular muscle is mainly by

- | | |
|-----------------|-----------------|
| (a) 5th cranial | (b) 7th cranial |
| (c) 3rd cranial | (d) 9th cranial |

9. Hassal-Henele's bodies present in
- Endothelial layer
 - Descemet's membrane
 - Substantia portia
 - Bowman's layer
10. The thickness of the Bruch's membrane is
- 3μ
 - 5μ
 - 6μ
 - 7μ
11. The circular diameter of the cornea is
- 10.5 mm
 - 11.5 mm
 - 12.5 mm
 - 13.5 mm
12. Horizontal diameter of the eyeball is
- 23.5 mm
 - 22.5 mm
 - 24.5 mm
 - 25.5 mm
13. Middle vascular coat of eyeball consists of following except
- choroid
 - ciliary body
 - iris
 - retina

14. Volume of the vitreous cavity is
- 3.5 ml
 - 4.5 ml
 - 5.5 ml
 - 6 ml
15. The conjunctiva at the corneal junction
- palpebral
 - bulbar
 - fornix
 - limbal

16. The blood supply of the eye is by

- retinal artery
- ophthalmic artery
- lacrimal artery
- ciliary artery

17. The cornea consists of

- 5 layers
- 4 layers
- 6 layers
- 3 layers

18. Sclera has

- 3 parts
- 2 parts
- 5 parts
- 6 parts

19. The volume of the orbit is about

- 20 ml
- 40 ml
- 50 ml
- 30 ml

20. Formation of aqueous humour is by

- (a) Ciliary muscle
- (b) Ciliary process
- (c) Choroid
- (d) Retina

SECTION B — (5 × 6 = 30 marks)

Short Notes.

21. (a) Parts of conjunctiva.

Or

(b) Actions of extraocular muscles.

22. (a) The contents of the orbit.

Or

(b) Crystalline lens.

23. (a) Structure of the Iris.

Or

(b) Glands of the Eyelid.

24. (a) Limbus.

Or

(b) Functions of Uvea.

25. (a) The origin of eye.

Or

(b) Structure of Sclera.

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SECTION C — (5 × 10 = 50 marks)

Long questions.

26. (a) Write briefly about choroid.

Or

(b) Write about ciliary body.

27. (a) Write in detail about chambers of the eye.

Or

(b) Regions of the retina.

28. (a) Describe about the muscles of the eyelid.

Or

(b) Describe about the extra ocular muscles.

29. (a) Write briefly about conjunctiva structure blood supply and nerve supply.

Or

(b) Write in about blood supply of the eye.

30. (a) Describe in detail about the cornea.

Or

(b) Write briefly about nerves of the eye.

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Reg. No. :

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Q.P. Code : [07 OPT 10]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

Third Year

Part III — Optometrics

SYSTEMIC OPHTHALMOLOGY

Time : Three hours

Maximum : 100 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Cornea xerosis is seen in _____ stage of WHO classification of Xerophthalmia.
2. Hyphaema, subconjunctival haemorrhage can be due to deficiency of _____.
3. Oral form of Vitamin A is _____.
4. Deficiency of Vitamin _____ causes corneal anaesthesia.
5. Active infection of rubella is indicated by raised levels of _____.
6. Interstitial keratitis is seen in _____.
7. Angular conjunctivitis is caused by _____.
8. Pseudo membrane conjunctivitis is caused by _____.
9. Hyperglycaemia can cause _____ change in refractive error.
10. Flame shaped haemorrhage are commonly in _____ retinopathy.
11. Cherry red spot is seen in _____
 - (a) CRAO
 - (b) CSR
 - (c) Diabetes
 - (d) Chorioretinitis
12. In Gout, there is abnormal accumulation of _____.
13. Heerfordt's disease is seen in

(a) Gout	(b) Leprosy
(c) Sarcoidosis	(d) Tuberculosis

14. Steven Johnson syndrome can be caused by
- (a) Sulpha drug (b) Herpes simplex
(c) Both above (d) None of above
15. Peripheral marginal keratitis seen in
- (a) Fungal infection (b) Acanthamoeba
(c) Rosacea (d) Atopic dermatitis
16. Steven Johnson syndrome leads to
- (a) Fungal infection
(b) Cicatricial conjunctivitis
(c) Malignancy
(d) None of above
17. Bitemporal hemianopia is seen in lesion of
- (a) Optic Tract (b) Optic chiasma
(c) Optic radiation (d) Optic nerve
18. Papilloedema is seen in tracramil Tumor of all, except
- (a) Mid brain (b) Cerebellum
(c) Occipital lobe (d) Medulla oblongata
19. Disc edema with macular exudates is
- (a) Optic neuritis (b) Neuro retinitis
(c) Chorioretinites (d) Retrobulbar neuritis

20. Inferior homonymous quadrantanopia is seen in
- (a) Temporal lobe lesion
(b) Parietal lobe lesion
(c) Frontal lobe
(d) Calcarine fissure

SECTION B—(5 × 6 = 30 marks)

Answer ALL questions.

21. (a) Discuss a role of Vitamin A in eye physiology.

Or

- (b) Discuss on various ocular manifestation Vitamin deficiencies

22. (a) Write a short note on causes clinical features and treatment of acute conjunctivitis.

Or

- (b) Write a short note on endophthalmitis prophylaxis and management.

23. (a) Discuss on classification and clinical features of uveitis.

Or

- (b) Differentiate between granulomatous and non-granulomatous uveitis.

24. (a) Write a short note on Steven Johnson syndrome.

Or

(b) Write a short note on various autoimmune disorders affecting the eye.

25. (a) Write a note on Foster Kennedy syndrome.

Or

(b) Draw a diagram of visual pathway and visual field defects.

SECTION C — (5 × 10 = 50 marks)

Answer ALL questions.

26. (a) Describe WHO classification and prevention of xerophthalmia.

Or

(b) Discuss causes, clinical features and management of Vitamin A deficiency.

27. (a) Discuss causes of non infective conjunctivitis and their clinical features.

Or

(b) Discuss clinical feature, complication and management of Toxoplasmosis chorioretinitis.

28. (a) Describe the characteristic and management of Proliferative diabetic Retinopathy.

Or

(b) Discuss classification and complication of Proliferative diabetic retinopathy.

29. (a) Discuss Ocular manifestation of Tuberculosis and management.

Or

(b) Discuss Ocular manifestation of AIDS.

30. (a) Discuss clinical features, classification and treatment of Optic Neuritis.

Or

(b) Describe Pupillary pathway and describe abnormal pupillary reactions.

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Q.P. Code : [07 OPT 12]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

Third Year

Part III — Optometrics

CONTACT LENSES

Time : Three hours

Maximum : 100 marks

SECTION A — (20 × 1 = 20 marks)

Answer ALL questions.

1. RGP lens materials include
 - (a) PMMA
 - (b) HEMA
 - (c) Silicone Acrylate
 - (d) None of above.
2. Hydrogel materials include
 - (a) PMMA
 - (b) Silicone Acrylate
 - (c) Styrene
 - (d) MMA – PVD.
3. As the water of hydration of a lens increases its oxygen permeability
 - (a) increases
 - (b) decreases
 - (c) remains same
 - (d) none of above.
4. As the lens thickness increases its oxygen permeability
 - (a) increases
 - (b) decreases
 - (c) remains same
 - (d) none of above.
5. Central dark area with peripheral bright green fluorescein staining indicates
 - (a) flat fit
 - (b) steep fit
 - (c) ideas fit
 - (d) none of above.
6. Central bright green fluorescein staining with intermediate dark zone in lens fitting indicate
 - (a) flat fit
 - (b) steep fit
 - (c) ideal fit
 - (d) none of above.
7. Over all domain of a soft contact lens is
 - (a) >HVID
 - (b) <HVID
 - (c) = HVID
 - (d) None of above.
8. Excessive movement of lens over cornea indicates
 - (a) flat fit
 - (b) steep fit
 - (c) ideas fit
 - (d) none of above.

9. An example of extended wear lens with high water content is
- CSI lens
 - Softcon lens
 - Hydro curve lens
 - Perma lens.
10. Percentage of water content in low water content entered wear lens is
- 38 – 45%
 - 45 — 60%
 - > 60%
 - None of above.
11. A contact lens is fitted with 3 point touch technique in
- Aphakia
 - Pseudophakia
 - Presbyopia
 - Keratoconus.
12. Large lenticular lens can be tried in
- Aphakia
 - Pseudophakia
 - Presbyopia
 - Keratoconus.
13. An example of a therapeutic contact lens is
- CSI lens
 - Perma lens
 - Hydro curve lens
 - Plano T lens.
14. Type A cosmetic contact lens is used for
- Occlusion therapy
 - Cosmetic enhancement
 - Albinism
 - Polycoria.
15. Clear edge with light brown tint is seen in _____ type of cosmetic lens
- A
 - B
 - C
 - D.
16. Ultrathin or membrane lenses are indicated in
- Epithelial defect
 - Desmatocele
 - Bullous keratopathy
 - All the above.
17. Endothelial pleomorphism and polymegathism is seen mostly with use of
- PMMA lens
 - RGP lens
 - Soft lens
 - All the above.
18. Use of homemade saline causes keratitis due to infection with
- Acanthamoeba
 - Pseudomonas
 - Staphylococcus
 - Streptococcus.

19. Polyvinyl alcohol is a

- (a) waiting agent
- (b) cleaning agent
- (c) enzymatic cleaner
- (d) soaking solution.

20. Benzalkonium chloride is a

- (a) Wetting agent
- (b) Cleaning agent
- (c) Preservative
- (d) Soaking solution.

SECTION B — (5 × 6 = 30 marks)

Answer ALL questions.

21. (a) List the properties of an ideal contact lens material.

Or

(b) Write short notes on RGP lens materials.

22. (a) Explain fluorescein patterns in contact lens fitting and clinical significance.

Or

(b) Write short notes on hard lens problems.

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23. (a) Write short notes on extended wear hydrogel soft lens.

Or

(b) Write short notes on extended wear rigid lens.

24. (a) How can contact lenses be used for drug delivery?

Or

(b) What are bandage contact lenses and Where are they used?

25. (a) Write briefly on conjunctival complications of contact lens use.

Or

(b) What is enzyme cleaning of contact lenses?

SECTION C — (5 × 10 = 50 marks)

Answer ALL questions.

26. (a) Explain in detail contact lens materials

Or

(b) What are the manufacturing techniques involved in contact lens preparation?

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27. (a) Explain fitting procedure of rigid contact lens.

Or

(b) Explain fitting procedure of soft contact lens.

28. (a) Write briefly on extended wear lenses.

Or

(b) Write about contact lens fitting in astigmatism and aphelia.

29. (a) What are the indications for use of therapeutic contact lenses?

Or

(b) Write briefly on indications, fitting techniques and complications of cosmetic contact lenses.

30. (a) What are the complications of contact lens wear?

Or

(b) Write briefly on care of contact lenses.

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Q.P. Code : [07 OPT II]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

Third Year

Part III — Optometrics

OPTICAL INSTRUCTIONS IN OPHTHALMOLOGY

Time : Three hours

Maximum : 100 marks

SECTION A — (20 × 1 = 20 marks)

Answer ALL questions.

3. Structures seen with indirect ophthalmoscope are all except
 - (a) Disc
 - (b) Retinal vessels
 - (c) Iris vessels
 - (d) ora serrata
4. Yag laser is used for
 - (a) PCO
 - (b) Cataract
 - (c) Traumatic cataract
 - (d) Paediatric cataract
5. Image in indirect ophthalmoscope is
 - (a) Real, Inverted and magnified
 - (b) Virtual, inverted and magnified
 - (c) Real, erect and magnified
 - (d) Real, inverted and minified
6. Direct Ophthalmoscope can used in the following conditions except
 - (a) Glaucoma
 - (b) Hypertensive retinopathy
 - (c) Age related macular degeneration
 - (d) Conjunctival naevus
7. Indirect ophthalmoscope with +20 D lens procedure
 - (a) 1 × magnification
 - (b) 2 × magnification
 - (c) 3 × magnification
 - (d) 4 × magnification
1. Illumination in slit lamp are all except
 - (a) Direct focal
 - (b) Indirect
 - (c) Retro illumination
 - (d) Indirect infocal
2. 90 D is used for
 - (a) Anterior segment
 - (b) Posterior Segment
 - (c) IOP
 - (d) Duct examination

8. Distant direct ophthalmoscope is used for all except
- To see opacity in refractive media
 - To diagnose diabetic retinopathy
 - To detect retinal microaneurism
 - None of the above
9. Specular microscopy is used to study
- Corneal epithelial cells
 - Corneal endothelial cells
 - Conjunctival epithelial cells
 - Retinal epithelial cells
10. OCT is used to study
- Macula
 - Retinal layers
 - Both of the above
 - None of the above
11. OCT stands for
- Optical circular tomography
 - Optical coherence topography
 - Optical coherence tomography
 - Optical coherence test
12. ARMD stands for _____.
13. Instrument used to measure power of spectacle is known as
- Lensometer
 - Focimeter
 - Vertometer
 - All of the above
14. Automated lensometer - all are true except
- Can be used in ophthalmic practice
 - Microcomputer are inbuilt to mathematically process the data associated with wave measurement
 - It requires to be kept at specific temperature condition
 - Example is humphry lens analyzer
15. Operating microscope - Basic system are all except
- Observation system
 - Illumination system
 - Mechanical support system
 - Power supply
16. Ophthalmic operating microscope is used in
- Retinal surgery
 - Pterygium autograft
 - Squint surgery
 - All the above

17. B scan can be used for

- (a) Intraocular foreign body
- (b) IOL position
- (c) Extraocular muscle insertion
- (d) All the above

18. Total RD is seen in B scan as

- (a) Funnel shaped RD
- (b) Cup RD
- (c) RD's cannot be visualized
- (d) None of the above

19. IOL power calculation requires

- (a) Keratometer
- (b) Orbscan
- (c) B scan
- (d) Automated lensometer

20. Perimetry is used for

- (a) Assessing visual field
- (b) Assessing visual acuity
- (c) Can be used for IOL power
- (d) None of the above

SECTION B — (5 × 6 = 30 marks)

Answer ALL questions.

21. (a) Discuss the optics of keratometer.

Or

(b) What are the clinical applications of slit lamp? Which accessory devices can be used with slit lamp?

22. (a) What are the advantages and disadvantages of indirect ophthalmoscopy?

Or

(b) Discuss the technique of indirect ophthalmoscopy.

23. (a) Discuss optics and techniques of interferometry.

Or

(b) Explain the advantages and disadvantages of pachymetry.

24. (a) Discuss the clinical applications of lensmeter.

Or

(b) Discuss the clinical applications of operating microscope.

25. (a) Write the clinical applications of B scan in ophthalmic practice.

Or

(b) Discuss the advantages and disadvantages of B scan.

SECTION C — (5 × 10 = 50 marks)

Answer ALL questions.

26. (a) What is gonioscopy? Discuss its principle with type. Write briefly on advantages and disadvantages of gonioscope.

Or

(b) What is specular microscopy explain its optics briefly? What is the method of analysis and clinical uses of specular microscopy?

27. (a) What is the technique of indirect ophthalmoscope and also discuss briefly on optics. Mention the advantages and disadvantages of indirect ophthalmoscope.

Or

(b) What is ophthalmoscopy? Discuss the optics of direct ophthalmoscope. Compare direct vs indirect ophthalmoscope.

28. (a) Discuss the optics of pachymeter with diagram and mention its uses, applications, advantages and disadvantages.

Or

(b) How OCT is useful in today's practice? Mention its clinical applications, advantages and disadvantages.

29. (a) Draw a schematics diagram depicting components of observation system of operating microscope. Briefly discuss the components of operating microscope.

Or

(b) Discuss the optic system of lensometer and mention about its clinical use, advantages and disadvantages.

30. (a) Discuss briefly on B-scan, its principle and its clinical application.

Or

(b) Discuss briefly on IOL power calculation.

Reg. No. :

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Q.P. Code : [07 OPT 13]

(For the candidates admitted from 2007 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2010.

Third Year

Part III — Optometrics

PHYSICAL AND GEOMETRIC OPTICS

Time : Three hours

Maximum : 100 marks

SECTION A — (20 × 1 = 20 marks)

Answer ALL the questions.

1. Visible spectrum of light is from
 - (a) 200 – 400 nm
 - (b) 400 – 700 nm
 - (c) 300 – 600 nm
 - (d) 500 – 800 nm
2. Electromagnetic theory was proposed by
 - (a) Newton
 - (b) Huygens
 - (c) Maxwell
 - (d) Einstein
3. Quantation theory was proposed by
 - (a) Newton
 - (b) Huygens
 - (c) Maxwell
 - (d) Einstein
4. Phenomena of interference and diffraction is successfully explained by
 - (a) corpuscular theory
 - (b) wave theory
 - (c) electromagnetic theory
 - (d) quantum theory
5. The features of an image formed by a plane mirror include
 - (a) same size as object
 - (b) virtual
 - (c) laterally inverted
 - (d) all of the above
6. Distance of principle focus from the pole of the spherical mirror is the
 - (a) normal
 - (b) principle axis
 - (c) focal length
 - (d) radius of curvature
7. A real inverted image equal to size of object is formed by a concave mirror if object position is
 - (a) At infinity
 - (b) Beyond C
 - (c) A+ C
 - (d) A+ F

8. Principle of total internal refraction is used in
- fibreoptic lights
 - applanation tonometer
 - crinoscope
 - all of the above
9. The best example of minimum determinable of hyperacuity is
- Snellen's
 - Landolts
 - Vernier
 - Gratings
10. An example of detection acuity test is
- catford drum test
 - snellens E chart
 - Lighthouse test
 - Dominio's card test
11. Each letter of the snellene chart subtends an angle of _____ at the nodal point of the eye
- 5 min
 - 10 min
 - 1 min
 - 15 min
12. For testing distant visual acuity the distance which the patient is seated from snellens chart _____
- 1 m
 - 5 m
 - 10 m
 - 6 m
13. Angle formed between the visual axis and papillary line is
- Angle alpha
 - Angle Beta
 - Angle kappa
 - Angle delta
14. One dioptre is the reciprocal of focal length expressed in _____
- centimeters
 - meters
 - inches
 - degrees
15. Angle formed between the optical axis and visual axis at the nodal point is _____
- Angle alpha
 - Angle Beta
 - Angle kappa
 - Angle gamma
16. In listings reduced eye position of the anterior focal point is _____ mm in front of cornea
- 15.5
 - 15.6
 - 15.7
 - 15.8

17. Optical aberrations of eye include

- (a) Spherical aberration
- (b) Chromatic aberration
- (c) Oblique aberration
- (d) ALL of the above

18. Parallel rays of light are brought to focus in front of the retina in

- (a) Myopia
- (b) Hypermetopia
- (c) Astigmatopia
- (d) None of the above

19. Compound astigmatism is corrected by

- (a) convex lens
- (b) concave lens
- (c) spherocylinder
- (d) simple cylinder

20. Hypermetropia is corrected by

- (a) Concave lens
- (b) Convex lens
- (c) Cylinder
- (d) None of the above

SECTION B — (5 × 6 = 30 marks)

Answer ALL questions.

21. (a) Write short notes on Newtons corpuscular theory

Or

(b) Write short notes on Huygens wave theory.

22. Briefly describe laser of refraction with diagram

Or

(b) Explain phenomena of total internal reflection with diagram.

23. (a) What are the factors affecting visual acuity.

Or

(b) Explain preferential looking test

24. (a) Briefly describe visual angles of the eye and clinical significance

Or

(b) Enumerate the six cardinal points of the eye.

25. (a) Write short notes on spherical aberration in eye.

Or

- (b) Write short notes on ocular chromatic aberrations.

SECTION C—(5 × 10 = 50 marks)

Answer ALL questions.

26. (a) Explain briefly various theories describing the nature of light.

Or

- (b) What is LASER? Explain its principle of production and applied aspects.

27. (a) Briefly describe images formed by a concave mirror with appropriate diagrams.

Or

- (b) Explain in brief the images formed by a convex lens with appropriate diagrams.

28. (a) Explain lists used for measurement of visual acuity.

Or

- (b) What are the components of visual acuity? Give examples of lists which measure each type.

29. (a) Explain the axes and angles of the eye with clinical significance.

Or

- (b) Explain the models of schematic eye.

30. (a) What are optical aberrations? Explain in detail.

Or

- (b) Describe the errors of refraction.



Q. P. Code: 07OPT08

(For candidates admitted from 2007 onwards)

B. Sc. DEGREE EXAMINATIONS, DECEMBER – 2010

Part –III Branch: Optometrics

PATHOLOGY AND MICROBIOLOGY - I

Time: 3 Hours

Maximum: 100 Marks

Section A – (20 X 1 = 20 Marks)

Answer all the questions

1. Pannus is a term applied for
 - a. Superficial neovascularization
 - b. Epithelial oedema
 - c. Epithelial keratitis
2. Vascularization in diabetic retinopathy can be detected by
 - a. Retroillumination
 - b. Appearance of ulcer
 - c. Indirect ophthalmoscopy
3. Lipid deposition in cornea follows
 - a. Chronic inflammation
 - b. Breaks in the membrane
 - c. Vascularization
4. _____ is a filamentous fungi
 - a. *Aspergillus spp.*,
 - b. *Nocardia spp.*,
 - c. *Klebsiella spp.*,
5. The lens has _____ parts.
 - a. One
 - b. Two
 - c. Three
6. Identification of pathogens in lens-induced endophthalmitis is by
 - a. Aqueous samples
 - b. Vitreous samples
 - c. Both a & b

7. The common cause of congenital cataract is
- Autosomal dominant (AD)
 - Autosomal recessive (AR)
 - None of the above
8. Lens is a vital _____ element.
- Refractive
 - Diffraction
 - Distractive
9. Rubeosis iridis is Vascularization of the
- Iris
 - Choroid
 - Retina
10. Ingrowths of vessels & associated tissues in the macular region is referred as
- Melanoma
 - Retinal neovascularization
 - Choroidal neovascularization
11. Mantoux test involves intradermal injection of purified protein derivative from
- Mycobacterium tuberculosis*
 - Mycobacterium bovis*
 - Mycobacterium leprae*
12. _____ controls the amount of light transmitted into the eye.
- Ciliary body
 - Iris
 - Choroid
13. Glaucoma is classified as
- Congenital
 - Acquired
 - Both a & b
14. Vitamin ____ is supplemented for patients with retinitis pigmentosa.
- C
 - K
 - A
15. 'Normal' IOP in elderly women ranges upto
- 24 mmHg
 - 21mmHg
 - 16mmHg

16. Rod-cone dystrophy affects the _____ more severely.
- Rod photoreceptors
 - Cones
 - None of the above
17. Nocardia is a _____ filamentous bacterium.
- Gram positive
 - Gram negative
 - None of the above
18. Mycobacterium tuberculosis is stained with _____ as primary stain.
- Carbol fuchsin
 - Crystal violet
 - Giemsa stain
19. *Neisseria gonorrhoea* is a
- Gram positive coccobacilli
 - Gram negative diplobacilli
 - Gram positive cocci
20. _____ conjunctivitis is the most common viral infection.
- Adenovirus
 - Varicella zoster virus
 - Herpes simplex virus

SECTION – B (5 X 6 = 30 Marks)

- How to control the infections & inflammation of cornea?
(Or)
 - Write notes on a. Melanosis b. Corneal neoplasia
- Explain the cellular events of the lens.
(Or)
 - Describe the clinical features of lens-induced uveitis.
- Write short notes on choroidal neovascularization.
(Or)
 - Explain the inflammation of uveal tract.
- Write the clinical features of rod-cone dysplasia.
(Or)
 - What is rod-cone degeneration?
- Explain the diagnosis of bacterial eye pathogens.
(Or)
 - Write about the fungal eye pathogens.

SECTION – C (5 X 10 = 50 Marks)

1. a. Describe the various types of mycotic keratitis.
(Or)
b. Describe general reactions of corneal inflammation.
2. a. Describe the pathogenesis of sugar cataract.
(Or)
b. Elaborate on the pathogenesis & prophylaxis of lens-induced endophthalmitis.
3. a. Describe the various stages of equine recurrent uveitis.
(Or)
b. Elaborate on the retinal neovascularization.
4. a. Describe light-induced retinal degeneration.
(Or)
b. Write in detail about the pathology of glaucoma.
5. a. Explain the pathogenesis of viral eye pathogens.
(Or)
b. Explain the diagnosis & treatment of mycobacterial eye pathogens.