

**ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2016
EXAMINATION CATEGORY: TECHNICAL**

PAPER III: SUBJECT SPECIALIZATION PAPER FOR OPHTHALMOLOGY

Date: 2 October 2016
Total Marks: 100
Examination Time: 150 minutes (2.5 hours)
Reading Time: 15 minutes (*prior to examination time*)

GENERAL INSTRUCTIONS

1. Write your Registration Number clearly and correctly on the Answer Booklet.
2. The first 15 minutes is being provided to check the number of pages, printing error, clarify doubts and to read instructions in Question Paper. You are NOT permitted to write during this time.
3. This paper consists of **TWO Sections, namely Section A and Section B.**
Section A has two parts: Part I - **30 Multiple Choice Questions.**
Part II - **4 Short Answer Questions.**
All questions under **Section A** are **COMPULSORY.**
Section B consists of 2 case studies. Choose only **ONE** case study and answer the questions under your choice.
4. All answers should be written on the Answer Booklet provided to you. Candidates are not allowed to write anything on the question paper. If required, ask for additional Answer Booklet.
5. All answers should be written with correct numbering of Section, Part and Question Number in the Answer Booklet provided to you. Note that any answer written without indicating correct Section, Part and Question Number will NOT be evaluated and no marks would be awarded.
6. Begin each Section and Part in a fresh page of the Answer Booklet.
7. You are not permitted to tear off any sheet(s) of the Answer Booklet as well as the Question Paper.
8. Use of any other paper including paper for rough work is not permitted.
9. You are required to hand over the Answer Booklet to the Invigilator before leaving the examination hall.
10. The Question paper has 7 printed pages including this Instruction Page.

GOOD LUCK!

SECTION A

PART I – Multiple Choice Questions (30 marks)

Choose the correct answer and write down the letter of your chosen answer in the Answer Booklet against the question number e.g. 31 (c). Each question carries ONE mark. Any double writing, smudgy answers or writing more than one choice shall not be evaluated.

1. Which one of the following is not a true cranial nerve?
 - a. CN II
 - b. CN III
 - c. CN IV
 - d. CN V

2. Which one of the cranial nerves exits from the dorsal part of the midbrain?
 - a. oculomotor nerve
 - b. trochlear nerve
 - c. trigeminal nerve
 - d. abducens nerve

3. Bilateral optic nerve hypoplasia may occur in conjunction with which of the following clinical findings?
 - a. absence of septum pellucidum
 - b. glaucoma
 - c. cataract
 - d. pigmentary retinopathy

4. Cone density is greatest in
 - a. macula
 - b. peripapillary region
 - c. arcuate regions
 - d. peripheral retina

5. A retrobulbar anesthetic *is least* likely to produce anesthesia of cranial nerve
 - a. II
 - b. III
 - c. IV
 - d. VI

6. Congenital anterior chamber anomalies include all EXCEPT
 - a. Peters anomaly
 - b. posterior keratoconus
 - c. Axenfeld – Reiger syndrome
 - d. Iris coloboma

7. The main corneal mechanism for holding the LASIK flap in place after surgery is
 - a. endothelial –descemet membrane interaction
 - b. endothelial pump
 - c. bowman layer – stromal adhesion
 - d. stromal collagen adhesion

8. Factors that influence drug penetration of the cornea include all EXCEPT
 - a. concentration
 - b. drop volume
 - c. ph
 - d. vehicle

9. Which of the following immunoglobulins is found in the tear film?
 - a. IgA
 - b. Ig M
 - c. IgE
 - d. Ig D

10. In addition to uveitis, which one of the following is the most common ophthalmic manifestation of Behcet syndrome?
 - a. Glaucoma
 - b. Retinal vasculitis
 - c. Corneal disease
 - d. Eyelid ulcers

11. Fetal alcohol syndrome includes all EXCEPT
 - a. Blepharophimosis
 - b. Cataract
 - c. Telecanthus
 - d. Optic nerve hypoplasia

12. Which one of the following medications would be most important for a preoperative patient to take the morning of surgery?
 - a. Antihypertensives
 - b. Digoxin
 - c. Thyroid medication
 - d. Estrogen supplements

13. A major risk factor for development of bacterial keratitis is
 - a. Age
 - b. Contact lens wear
 - c. Frequent use of non preserved tears
 - d. Systemic bacterial infection

14. Phlyctenular keratoconjunctivitis is an example of which type of hypersensitivity response?
- Type I
 - Type II
 - Type III
 - Type IV
15. Which of the following layers of the cornea continues to thicken from birth to adulthood?
- Epithelium
 - Stroma
 - Descemet's membrane
 - Endothelium
16. The major refractive power of the eye comes from the
- Cornea
 - Lens
 - Vitreous
 - Aqueous
17. Which of the following drugs is associated with corneal verticillata?
- Metoprolol
 - Amiodarone
 - Erythromycin
 - Tetracycline
18. Which examination technique uses the Placido disc?
- Retinoscopy
 - Specular microscopy
 - Keratometry
 - Wavefront analysis
19. Which of the following is an indication for surgery on a pterygium?
- Induced myopia
 - Tear deficiency
 - Induced astigmatism
 - Macular degeneration
20. Corneal signs typically associated with acanthamoeba keratitis include
- Subepithelial infiltrate
 - Ring infiltrate
 - Corneal neovascularization
 - Crystalline infiltrate

21. Congenital nasolacrimal duct obstruction is caused by an obstruction of
- Upper canaliculus
 - Valve of Hasner
 - Valve of Rosenmuller
 - Lower punctum
22. Which of the following types of exodeviations is the most common?
- Pseudoexotropia
 - Congenital exotropia
 - Duanes syndrome
 - Intermittent exotropia
23. In patients with aniridia, careful screening must be performed to rule out the following systemic disease.
- Retinoblastoma
 - Wilms tumor
 - Rhabdomyosarcoma
 - Pheochromocytoma
24. A one month old baby is diagnosed with unilateral anterior polar cataract that is approximately 1.5 mm in diameter. The most appropriate initial management is
- Close observation
 - Lensectomy
 - Lensectomy with intraocular implant
 - Chronic dilation
25. Botulinum toxin is an effective treatment for which one of the following disorders?
- Ptosis
 - Pthisis
 - Dry eye
 - Essential blepharospasm
26. The Watzke –Allen test is used to diagnose
- Dry eye
 - Macular hole
 - Retinal detachment
 - Intraocular pressure
27. The radiologic test of choice for a suspected intraocular foreign body is
- X ray
 - Ultrasonography
 - MRI
 - CT scan

28. In sympathetic ophthalmia, there is usually a history of
- Glaucoma
 - Diabetes mellitus
 - Penetrating trauma to the eye
 - Contact lens wear
29. The common source of infection in orbital cellulitis in children is
- Dental caries
 - Ethmoiditis
 - Herpes simplex
 - Trauma
30. Anterior ischemic optic neuropathy is associated with all of the following clinical features EXCEPT
- Jaw claudication
 - Headache
 - Scalp tenderness
 - Low erythrocyte sedimentation rate

PART II – Short Answer Questions (20 marks).

This part has 4 Short Answer Questions. Answer ALL the questions. Each question carries 5 marks.

- Write briefly on the classification of diabetic retinopathy.
- Briefly explain ocular complications of AIDS.
- Explain lens induced glaucoma.
- Explain differential diagnosis of leucocoria?

SECTION B

Case Study

Choose either Case 1 or 2 from this section. Each case study carries 50 marks.

Case 1

A 70 year old man presented to the clinic with complaints of gradual, progressive, painless decrease in vision in both eyes since one year. On examination, his vision was recorded as 3/60 in the right eye, 6/24 in the left eye. There was no improvement with refraction in both eyes. The intraocular pressure in both eyes was 12 mmHg. His fundus in the right eye was not visible. Left eye showed some macular degeneration.

- a) What are the possible diagnoses? (5 marks)
- b) What other investigations would you ask for? (5 marks)
- c) What is your line of management? (5 marks)
- d) In case the patient has planned for surgery, what type of surgery would you do? Describe in detail. (10 marks)
- e) What are the complications of such a surgery? Write in detail. (10 marks)
- f) Define Low Vision. (5 marks)
- g) What is the meaning of 'second sight'? (5 marks)
- h) What is the commonest cause of preventable blindness in our country? (5 marks)

OR

Case 2

A 72-year-old male presented to the emergency with a history of injury by a metal rod to his right eye a few hours ago. On examination, the vision in the right eye is hand movement and the left eye is normal. At the limbus, 2 o'clock position, there is some brown tissue visible. Details of the anterior chamber are not seen. The right lower lid is also lacerated.

- a) List down in detail the possible structures of the eye that are involved in this injury. (5 marks)
- b) Describe your approach and management of this case. (10 marks)
- c) What investigations would you order and describe some of the finding you could expect to see in the investigations. (5 marks)
- d) Mention the grading of hyphema and management. (5 marks)
- e) What is commotio retinae? How would you manage it? (5 marks)
- f) Which part of the orbit is most likely to be affected and why? (5 marks)
- g) Mention some of the long term complications that this patient may have. (5 marks)
- h) In case surgery is necessary, describe what type and how you would do it. (10 marks)

TASHI DELEK