

ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2013
EXAMINATION CATEGORY: TECHNICAL

PAPER III: SUBJECT SPECIALIZATION PAPER for *DENTISTRY*

Date	: 14 October 2013
Total Marks	: 100
Examination Time	: 150 minutes (2.5 hours)
Reading Time	: 15 Minutes (prior to examination time)

GENERAL INSTRUCTIONS:

1. Write your Roll Number clearly and correctly on the Answer Booklet.
2. The first 15 minutes is being provided to check the number of pages of Question Paper, printing errors, clarify doubts and to read the instructions. 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 two Case Studies. Choose only ONE case study and answer the questions under your choice.
4. 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 any or correct Section, Part and Question Number will NOT be evaluated and no marks would be awarded.
5. Begin each Section and Part in a fresh page of the Answer Booklet.
6. You are not permitted to tear off any sheet(s) of the Answer Booklet as well as the Question Paper.
7. Use of any other paper including paper for rough work is not permitted.
8. You are required to hand over the Answer Booklet to the Invigilator before leaving the examination hall.
9. This paper has **09** printed pages in all, 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 the correct answer chosen 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. **A patient has well developed pulp horns extending into the lobes of the anterior teeth. The tooth belongs to:**
 - a) a middle aged person
 - b) a young person
 - c) a malnourished person\
 - d) none of the above

2. **Most commonly used filler in a composite is**
 - a) Quartz
 - b) Aluminium
 - c) Colloidal silica
 - d) Glass

3. **The product that is formed on the surface of the amalgam restoration and frequently results in discolouration is**
 - a) Oxide
 - b) Sulphide
 - c) Gamma I phase
 - d) Gamma II phase

4. **The process of histo-differentiation in dental development characterizes**
 - a) Initiation stage
 - b) Bell stage
 - c) Cap stage
 - d) Maturation stage

5. **The number of developmental lobes found in permanent incisors is**
 - a) 1
 - b) 2
 - c) 3
 - d) 4

6. **Principal jaw opening muscles is**
 - a) Medial pterygoid
 - b) Lateral pterygoid
 - c) Genioglossus
 - d) Masseter

7. A 5-year-old child has hypoplasia of primary teeth limited to incisal or occlusal one thirds. The most probable cause may be

- a) Fluoridated water
- b) Teracycle medication in early age
- c) Metabolic disturbance in prenatal period
- d) All of the above

8. The order of anaesthesia effect is

- a) pain-temperature-touch-proprioception in skeletal muscle fibres
- b) temperature- pain-touch-proprioception in skeletal muscle fibres
- c) Touch-pain-temperature- -proprioception in skeletal muscle fibres
- d) Proprioception in skeletal muscle fibres- pain-temperature-touch

9. The main difference between amoxicillin and ampicillin is

- a) Ampicillin is acid resistant where as amoxicillin is not
- b) Amoxicillin is absorbed better and has less incidence of diarrhoea
- c) Amoxicillin has greater spectrum of action than ampicillin
- d) Acetaminophen needs to be co-administered with amoxicillin

10. Which of the following NSAID is used commonly to treat acute gout?

- a) Aspirin
- b) Ibuprofen
- c) Indomethacin
- d) Diclofenac

11. 1 cartridge of 2% lignocaine contains

- a) 2 ml and 40 mg of lignocaine
- b) 1.8 ml and 36 mg of lignocaine
- c) 1.5 ml and 30 mg of lignocaine
- d) 1 ml and 20 mg of lignocaine

12. 1 ml of 2% lignocaine with 1:1,00,000 epinephrine contains how many milligrams of epinephrine

- a) 0.2 mg
- b) 0.1 mg
- c) 1 mg
- d) 2 mg

13. Which one of the following is a haemolytic anaemia

- a) Sickle cell anemia
- b) Megaloblastic anemia
- c) Iron deficiency anemia
- d) Aplastic anemia

14. Organisms that causes abscess is

- a) Staphylococcus
- b) Streptococcus
- c) B. Vincenti
- d) Spirochetes

15. The mandibular right second molar of a 15-year-old boy is unerupted. Radiographs show a small dentigerous cyst surrounding the crown. The treatment of choice is to

- a) Extract the tooth
- b) Observe and defer treatment
- c) Aspirate the contents of the cyst
- d) Uncover the crown and keep it exposed

16. A 30-year-old patient has an asymptomatic soft doughy 2 cm swelling on the lateral surface of the neck since months. The swelling enlarged as a result of respiratory tract infection. The likely diagnosis is

- a) Cat scratch fever
- b) Hodgkin's disease
- c) Cervicofacial actinomycosis
- d) Scrofula

17. Most common cause for RCT failure is

- a) Infection
- b) Improper BMP
- c) Incomplete obturation
- d) All of the above

18. Dental age is most closely related to:

- a) Dental maturation
- b) Chronological age
- c) Age at which a particular tooth erupts
- d) Mental age

19. A patient who suffered a displaced mandibular fracture some time ago complained of pain. The pain is at the old fracture site, near the mental foramen. A tender mass is present there. The most probable diagnosis is

- a) Hypercementosis
- b) Traumatic neuroma
- c) Neurolemmoma
- d) Neurofibroma

- 20. Before dental treatment, prophylactic antibiotic coverage is indicated for patients with each of the following conditions *except***
- coronary artery bypass
 - Rheumatic heart disease
 - Prosthetic aortic valve
 - Kidney damage needing haemodialysis
- 21. A patient on whom scaling of teeth has been done recently, returns with thick black deposits on the gingival margins, the reason is:**
- Poor home care
 - Patient is a heavy tea and coffee drinker
 - Recession of gingiva
 - Solidified blood is deposited on the gingiva
- 22. Which are the largest papilla on the tongue with numerous taste buds but are least in number**
- Fungiform papilla
 - Filliform papilla
 - Circumvallate papilla
 - Mucous papilla
- 23. An AIDS patient has undergone dental extraction. The infected bloody instruments such as dental probe, elevator and forceps is best sterilized by**
- Moist heat autoclave
 - Clean the instruments and then use dry heat
 - Soak overnight in 2% glutaraldehyde
 - Wipe clean with 5% povidine iodine
- 24. Patient experiences pain on swallowing with trigger zones present in soft palate, oropharynx and tonsils. The most likely condition is**
- Sphenopalatine neuralgia
 - Trigeminal neuralgia
 - Trotter's syndrome
 - Glossopharyngeal neuralgia
- 25. In the event of a cephalometric analysis, angle ANB of -5 degrees indicates**
- Class I type I malocclusion
 - Class II Division I malocclusion
 - Class III malocclusion
 - Severe protrusion with class II malocclusion

- 26. A child is brought to the dental clinic with complaint of irregular teeth. The maxillary central incisor is rotated in an otherwise normal occlusion. What should the next step be**
- a) Check for supernumerary teeth
 - b) Resection supracrestal fibres
 - c) Insert removable appliance with a Z-spring
 - d) Fixed orthodontics appliance given
- 27. Which of the following statement is false in relation to treatment of myofacial pain dysfunction syndrome**
- a) Mainly affects young females
 - b) Is caused by muscle fatigue due to chronic oral habits as grinding and clenching
 - c) Treatment involves construction of bite stem and stress free emotional condition
 - d) The perioral muscles becomes hypotonic
- 28. A flat, circumscribed discolouration of skin or mucosa that may vary in size and shape is referred to as:**
- a) Epulis
 - b) Macule
 - c) Nodule
 - d) Papule
- 29. A 7-year-old child is brought to the clinic with fracture of right lower central incisor involving the pulp. Radiograph shows immature apex formation. The treatment of choice for such a case is:**
- a) Apexification
 - b) Periapical curettage
 - c) Extraction followed by partial denture
 - d) Normal root canal obturation with gutta percha
- 30. On intraoral examination you notice deep stained grooves on the posterior teeth. Which of the following treatment option would be least acceptable?**
- a) Amalgam restoration of the grooves
 - b) Pit and fissure sealants
 - c) Odontoplasty
 - d) Light cure resin restoration

PART – II : Short Answer Questions (20 marks)

Answer ALL the questions. Each question carries 5 marks. Mark for each sub-question is indicated in the brackets.

1. Define pain. What do you mean local anaesthesia? Describe Local Anesthetic toxicity.
2. Define health. What are the various levels of prevention? Describe each with an example related to oral health.
3. Define impression. Discuss briefly various impression materials used in dentistry.
4. What is radiation and how is dental x-ray produced? Discuss various ways to prevent dental radiation exposure to staff and patients.

SECTION B

Case Study

Choose either Case 1 or Case 2 from this Section. Each Case carries 50 marks. Mark for each sub-question is indicated in the brackets.

CASE 1

A healthy looking 27-year-old woman presents to you complaining of unable to open her mouth which was preceded by a dull pain from one of the posterior teeth for the last five days. She also has isolated gum sore. As she was planning to go and see a dentist, her car's door accidentally hit hard against her front teeth as she opened it hurriedly. Her luck was out and she rushed to a dental clinic located 20 km away. There was no significant medical history. On examination, the upper lip was bruised and bleeding. Tooth number 11, 21 were coronally fractured involving about 1/3 of the crowns. Red hue of pulps was seen through the remaining thin dentin but wasn't bleeding. The maximum mouth opening (MMO) was about two fingers. Based on this case, answer the following questions:

- a. What is the normal range in mouth opening? (1 mark)
- b. Define trismus and classify it? (9 marks)
- c. Write the normal eruption age of primary and secondary dentitions. (10 marks)
- d. How long have the two teeth indicated above been approximately in the patient's mouth considering their eruption time? (2 marks)
- e. Discuss risk factors that make anterior teeth vulnerable to fracture. (5 marks)

- f. What are the possible causes of the woman's inability to open her mouth? (5 marks)
- g. Name the artery or arteries that supply the upper lip. Mention normal bleeding and clotting time. Diagrammatically depict the clotting mechanism (10 marks)
- h. What is the most appropriate treatment of the teeth involved? Discuss it briefly. (5 marks)
- i. List down your treatment plan in an orderly manner for managing this case. (3 marks)

CASE 2

A 65-year-old man has never been to dental surgery before. Of late he has been suffering from teeth sensitivity, and noticed his chewing deficiency increase slowly over a span of nearly a decade due to loss of several dentitions in succession. He doesn't wear denture. His chief complaint is that of an adherent white diffuse patch on the right buccal mucosa. Medically, he has hypertension and Type II diabetes (both not under treatment). Jaw excursion indicated crepitus at the TMJ sites. The gingiva is receded and has sensitivity from remaining teeth. The buccal lesion cannot be rubbed off on palpation and pressure. Calculus deposits on lower anterior teeth were heavy. The resorption was advanced in edentulous areas. He comes from a low income family and is not educated with poor attitude for good health. Finally, he also revealed that he has been smoking and chewing tobacco moderately since he was in his late twenties.

- a. What do you mean by the chief complaint? (2½ marks)
- b. What is geriatric dentistry? How does it differ from other forms of dental practice? (5 marks)
- c. What is the possible white lesion in this man? (3 marks)
- d. Name some white lesions (at least five) found in the oral cavity? (2½ marks)
- e. Give your possible treatment plan for this patient? (5 marks)
- f. What is the latest treatment option for white oral lesions? (3 marks)
- g. What do you mean by hypertension? (1 mark)
- h. Why does the patient have clicking sound from the TMJ? (2 marks)
- i. What do you mean by dentinal hypersensitivity? How do you treat such a case? (5 marks)

- j.** Is pulpitis also a possible source of pain in this man? Give differentiating points between two types of pulpitis. (5 marks)
- k.** What is the mechanism of dental calculus formation and how is it removed in dental clinic? Mention the calculus index. (5 marks)
- l.** How is gingival recession prevented or treated? (1 mark)
- m.** What do you mean by medically compromised patient? What precautions do you need to exercise in practicing oral surgery for this man? (5 marks)
- n.** If you intend to give dental prosthesis for this patient, would you go with denture or implants? Give reasons. (3 marks)
- o.** In health, if WHO means World Health Organization, KAP means ____ ? (2 marks)