

**ROYAL CIVIL SERVICE COMMISSION**  
**BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2012**  
**EXAMINATION CATEGORY: TECHNICAL**

**PAPER III: SUBJECT SPECIALIZATION PAPER for DENTISTRY**

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<b>Date</b>	: 14 October 2012
<b>Total Marks</b>	: 100
<b>Examination Time</b>	: 150 minutes (2.5 hours)
<b>Reading Time</b>	: 15 Minutes (prior to examination time)

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**READ THE FOLLOWING INSTRUCTIONS CAREFULLY:**

1. Write your Roll Number clearly on the Answer Booklet in the space provided.
2. The first 15 minutes is being provided to check the number of pages, printing errors, clarify doubts and to read the instructions. You are NOT PERMITTED TO WRITE during this time.
3. Use either Blue or Black ink pen or ball point pen for the written part and Pencils for the sketches and drawings.
4. All answers should be written on the Answer Booklet provided. Candidates are not allowed to write anything on the question paper or any other materials.
5. All answers must be labeled with appropriate question numbers (Section, Question and sub-Question Numbers wherever applicable). Unlabelled answers will not be assessed.
6. This Paper is divided into two sections-namely SECTION A and SECTION B.
7. SECTION A consists of two parts: Part I and Part II.

Part I consists of 30 Multiple-Choice Questions carrying one (1) mark each and is compulsory. The answer of your choice should be clearly written in whole along with the question and option number on your answer booklet. Eg. 31(c).

Part II consists of four (4) short answer questions of five (5) marks each and all questions are compulsory. Mark for each sub-question is indicated in the brackets.

8. SECTION B consists of two Case Studies. Choose only ONE case study and answer the questions under your choice. Each case study carries fifty (50) marks in total. Mark for each sub-question is indicated in the brackets.
9. This Paper consists of TEN (10) pages including this Instruction page.

## Section A (50 marks)

Answer ALL questions in this section.

**Part I: Multiple choice questions.** The answer of your choice should be clearly written in whole along with the question number and option number on your answer booklet. Each question is worth 1 mark (30 marks).

1. Which of the following muscle is responsible for “grinning of face”
  - a) Risorius
  - b) Mentalis
  - c) Platysma
  - d) Zygomaticus major
  
2. Contraction of one of the following muscles results in retraction of the mandible
  - a) Temporalis
  - b) Lateral pterygoid
  - c) Buccinator
  - d) Platysma
  
3. The nerve supplying the submandibular gland is
  - a) V
  - b) VII
  - c) IX
  - d) XII
  
4. In case of vertical fracture passing through mental foramen, the anterior segment of mandible moves
  - a) Inferiorly
  - b) Superiorly
  - c) Inferiorly and posteriorly
  - d) Superiorly and posteriorly
  
5. Facial nerve supplies
  - a) All muscles of facial expression
  - b) All muscles of facial expression excluding levator palpebrae superioris
  - c) All muscles of facial expression and mastication
  - d) None of the above

**6. Which of the following is predominantly mucous**

- a) Parotid gland
- b) Submandibular gland
- c) Sublingual gland
- d) Von Ebner's gland

**7. Waldeyer's ring consists of**

- a) Palatine tonsil
- b) Adenoid
- c) Lingual tonsil
- d) All of the above

**8. Impulses of taste are carried to brain through**

- a) 7<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> cranial nerves
- b) 5<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> cranial nerves
- c) 5<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup> cranial nerves
- d) 7<sup>th</sup>, 9<sup>th</sup>, 12<sup>th</sup> cranial nerves

**9. Painful stimuli from teeth are transmitted to**

- a) Temporal gyrus
- b) Medulla oblongata
- c) Precentral gyrus
- d) Post central gyrus

**10. Which of the following is not a true type of connective tissue**

- a) Collagen
- b) Chitin
- c) Reticulin
- d) Elastin

**11. Which among them is not a part of haemoglobin**

- a) Magnesium
- b) Histidine
- c) Pyrrole ring
- d) Iron

**12. A vitamin that functions as a reducing agent is**

- a) Vitamin A
- b) Vitamin B<sub>12</sub>
- c) Vitamin C
- d) Vitamin D

**13. Oedema is formed when**

- a) Tissue osmotic pressure is lower than that of plasma colloidal osmotic pressure
- b) Increased permeability of capillaries with increased blood pressure in capillaries
- c) The blood pressure in the capillaries is reduced with the increase in plasma colloidal osmotic pressure
- d) None of the above

**14. If one of the parents is Rh positive and the other Rh negative, the child will be**

- a) Rh negative
- b) Rh positive
- c) Rh neutral
- d) Rh central

**15. An adult has a respiratory rate of 15/min. Tidal volume is 400cc. Anatomic dead space is 100cc. Respiratory minute ventilation or volume is**

- a) 1,500 cc
- b) 4,500 cc
- c) 6,000 cc
- d) 7,500 cc

**16. During pregnancy, which of the following organ is not enlarged**

- a) Brain
- b) Thyroid
- c) Parathyroid
- d) Adrenal cortex

**17. Gram staining is useful in**

- a) Grouping of bacteria
- b) Identifying mycobacterium
- c) Demonstrating motility of bacteria
- d) Demonstrating the size of bacteria

**18. Genetic material of bacteria is composed of**

- a) Single stranded DNA
- b) Circular double stranded DNA
- c) Circular single stranded RNA
- d) Single stranded linear RNA

**19. A disease which is constantly present in a given community is called**

- a) Endemic
- b) Pandemic
- c) Epidemic
- d) Sporadic

**20. Localization of infection or abscess formation is a characteristic feature of**

- a) Staphylococci
- b) Fungi
- c) Viruses
- d) Streptococci

**21. The causative organism mostly commonly responsible for cellulitis is**

- a) Parasites
- b) Staphylococci
- c) Viruses
- d) Streptococci

**22. AIDS virus is**

- a) Picorna virus
- b) Retro virus
- c) DNA virus
- d) Entero virus

**23. Adult dose of a drug for a 70 kg person is 100mg. Using Clarks rule, what will be the dose in a child weighing 90 pounds**

- a) 0.70 mg
- b) 10 mg
- c) 90 mg
- d) 60 mg

**24. Increasing the dose of a drug by factor 10 increases the response by**

- a) 100
- b) 1000
- c) 10
- d) Not predictable

**25. Drug of choice in trigeminal neuralgia is**

- a) Aspirin
- b) Diazepam
- c) Carbamazepine
- d) Phenytoin

**26. Menadione is a synthetic form of**

- a) Vit-A
- b) Vit-D
- c) Vit- C
- d) Vit- K

**27. The total occlusal contact points in human dentition is**

- a) 150
- b) 138
- c) 250
- d) 1500

**28. Which of the following materials has high coefficient of thermal expansion**

- a) Silicates and glass ionomers
- b) Unfilled resin
- c) Glass ionomer
- d) Amalgam

**29. Universal bonding agent is**

- a) HEMA
- b) NPG-GMA
- c) META
- d) EDTA

**30. Following a general examination and biopsy of a firm, pale nodule in the tongue, a diagnosis of primary amyloidosis has been reached. What underlying disease is this patient likely to have:**

- a) Leprosy
- b) Syphilis
- c) Tuberculosis
- d) None of the above

**Part II: Short answer questions (20 marks)**

**Each question is worth 5 marks. Attempt ALL questions from the section.**

1. What is Bohn's nodule?
2. Describe about the natal and neonatal teeth?
3. Define embedded and impacted teeth. Classify impactions of teeth and its management rationale. Enumerate local and systemic contraindications of tooth extraction.
4. Define oral hygiene? Discuss various oral hygiene tools used in dentistry.



### Section B

**There are two case studies. Read the description of the case/complaints carefully. Choose any ONE of them and answer the questions that follow. Each question carries 50 marks.**

1. An apparently healthy looking 53-year-old man presents to you complaining of episodes of intense facial that last from a few seconds to several minutes or hours. The episode of intense pain is paroxysmal. He points a trigger area on the right mandible. Sometimes he has a shooting pain when ever he goes out in the breeze or wind. He says that his life has become miserable ever since he had pain. Extra orally he has no redness or swellings. The cervical lymph nodes are impalpable. Intra orally, he is partially edentulous and no intraoral prosthesis; has some grossly decayed teeth with tenderness and some of the right mandibular teeth are attrited and abraded with exposed dentin. He also underwent two extractions of right mandibular teeth in a different hospital previously within the past six months with the hope of getting his pain cured but to no avail. Based on this case, answer the following questions:

- a. Define pain in your own words?
- b. What is dental attrition and abrasion?
- c. What are the possible causes of pain in this man? Why?
- d. What are the clinical features of dentinal hypersensitivity and neuralgic pain?
- e. How would you perform test(s) to confirm various types of pain?
- f. What is your final diagnosis of pain in this patient?
- g. In your capacity as a general dental surgeon, how can you manage this case at your level?
- h. What is iontophoresis?
- i. Does he need referral? If yes, to whom should you send him for further treatment?

**OR**

2. An 8-year-old boy is brought to your clinic by his mother with bleeding mouth. It has been 60 minutes since accident occurred at school play ground when one of the boys pushed him from behind. When the mother found him, he was crying while his friends were looking anxiously. At the clinic, the mother showed you two teeth wrapped in a clean handkerchief. On examination the teeth was No. 41, 62. No alveolar or other dental fractures were seen, although the lower lip was punctured through measuring 1.25cm x 2 cm.

- a. What is the name of tooth number 41 and 61? When do these teeth erupt into the oral cavity?
- b. What muscle in the lower lip could have been severed in this accident? How will you manage it?
- c. What are the possible histories that you should get from the mother?

- d. What are the investigative procedures that confirm diagnosis in hard tissue fractures?
- e. How is tooth fracture classified? Which classification is better and why?
- f. Did the mother handle the avulsed teeth correctly?
- g. What are the treatments options with those two teeth?
- h. What is the success rate in replanted tooth?
- i. What are the indications and contraindication of teeth replantation? How can you improve the success of replants?
- j. At what age is tetanus vaccine administered to a child? Does this child need any booster dose?

**THE END**