

ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2019-2020
EXAMINATION CATEGORY: TECHNICAL

PAPER III: SUBJECT SPECIALIZATION PAPER for *DENTISTRY SPECIALIST*
(ENDODONTICS & CONSERVATIVE DENTISTRY)

Date	: January 2020
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 6 printed pages in all, including this instruction page.

All the Best....!

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. 30 (C). Each question carries ONE Mark. Any double writing, smudgy answers or writing more than one choice shall not be evaluated.

1. The most common indication for RCT in Bhutan is :
 - A. Fractured tooth
 - B. Carious tooth with pulp exposure
 - C. Tooth with root fracture
 - D. All of the above

2. The color of the smallest sized reamer/file is:
 - A. White
 - B. Grey
 - C. Pink
 - D. Purple

3. Covid-19 disease is caused by:
 - A. Bacteria
 - B. Fungi
 - C. Helminths
 - D. Virus

4. Covid-19 disease was first identified from which place:
 - A. Wuhan
 - B. Guangzhou
 - C. Taipei
 - D. Seoul

5. To decide treatment plan for RCT, which of the follow radiograph is most useful at our settings:
 - A. OPG
 - B. IOPA
 - C. CBCT
 - D. Bitewing

6. If DMFT stands for decayed, missing, filled tooth/teeth, what does ‘dmfs’ stand for
 - A. Dental ,Missing ,Filled, Sides
 - B. Decayed, Missing, First ,Single Tooth
 - C. Decay Must Fill Somehow
 - D. Decayed, Missing ,Filled ,Surfaces

7. Which of the following dental cement component accelerates the formation of reparative dentin?
 - A. Eugenol
 - B. Calcium hydroxide
 - C. Zinc Oxide
 - D. Silica

8. Oral antibiotic most commonly used for treating irreversible pulpitis in our hospitals is:
 - A. Azithromycin
 - B. Amoxicillin
 - C. Ciprofloxacin
 - D. Septran

9. One of the following chemically bonds to the tooth:
- A. Composite resin.
 - B. Dental sealants.
 - C. Glass ionomer cement.
 - D. All of the above.
10. Compomer restorative materials are:
- A. Glass ionomer with polymer components
 - B. Resin systems with fluoride containing glasses.
 - C. Composite resin for cervical restorations only.
 - D. Miracle mix and glass ionomer cements
11. What is the cavo-surface angle of preparation for amalgam restoration:
- A. 30 degree
 - B. 60 degree
 - C. 90 degree
 - D. 120 degree.
12. In cavity preparation, the width of the cavity is:
- A. 1/2 inter cuspal distance.
 - B. 1/3 inter cuspal distance.
 - C. 2/3 inter cuspal distance.
 - D. 1/4 inter cuspal distance
13. When polishing the amalgam restoration:
- A. Avoid heat generation by using wet polishing paste.
 - B. Wait 24 hours.
 - C. A and b.
 - D. B only.
14. Length of pins must be equals in both tooth and restoration by a depth of:
- A. 1 mm.
 - B. 2 mm.
 - C. 3 mm.
 - D. 4 mm.
15. Stainless steel pin is used in amalgam for:
- A. Increased retention.
 - B. Increased resistance.
 - C. Increased strength.
 - D. A and b.
16. The x- ray of choice to detect the proximal caries of the anterior teeth is:
- A. Periapical x-ray.
 - B. Bitewing x-ray.
 - C. Occlusal x-ray.
 - D. None of the above.
17. What is the copper ratio that eliminates gamma phase 2:
- A. 2% copper
 - B. 4% copper

- C. 10 % copper
- D. 13 % copper

18. To prevent discoloration under amalgam filling:

- A. Use Zn phosphate box.
- B. Use cavity varnish.
- C. Wash the cavity with NaOCl before filling.
- D. Use the correct amalgam-alloy ratio.

19. A patient complains of pain and sensitivity in 45 which has gold onlays. The pain could be due to:

- A. Chemicals from cement.
- B. High thermal conductivity of gold.
- C. Related to periodontal ligament.
- D. Cracked tooth or fractured surface.

20. If DMFT stands for decayed, missing, filled tooth/teeth, what does 'dmfs' stand for

- A. Dental ,Missing ,Filled, Sides
- B. Decayed, Missing, First ,SingleTooth
- C. Decay Must Fill Somehow
- D. Decayed, Missing ,Filled ,Surfaces

21. Severe form of allergic reaction (Steven Johnson Syndrome (SJS)) to a drug (most common) involving oral mucosa and skin may be due to:

- A. Amoxicillin
- B. Paracetamol
- C. Carbamazepine
- D. Ibuprofen

22. A patient allergic to penicillin may also be allergic to:

- A. Sulphamethaxazole
- B. Cephalosporin
- C. Macrolides
- D. Aminoglycosides

23. Which of the following non-steroidal anti-inflammatory drug is available in our hospitals?

- A. Tab. Indomethacin
- B. Tab. Ibuprofen
- C. Tab. Paracetamol
- D. Tab. Acetaminophen

24. 1 cartridge of 2% lignocaine that we generally use 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

25. If a patient walks into your chamber with an avulsed tooth in his hands and a bleeding mouth after a fall injury from a bicycle, what will you do?

- A. Ask him to throw the tooth and start examining him
- B. Collect the tooth, examine other injuries and send him home with medicines
- C. Collect the tooth, examine the patient for other problems , fix the avulsed tooth and splint it
- D. Medicate and send him

26. At what intrauterine age does tooth start to develop normally
- A. At 6 weeks
 - B. 4 months
 - C. 6 months
 - D. 12 months
27. Development of body of mandible involves one of the following?
- A. Reichert's cartilage
 - B. Meckel's cartilage
 - C. Intra-membranous bone development
 - D. Endo-chondrial ossification of Meckel's cartilage
28. In terminal cancer patients, the most common oral medicine (analgesic) given at our set up is:
- E. Pethidine
 - F. Tramadol
 - G. Ibuprofen
 - H. Morphine
29. The microorganism most commonly associated with tooth caries is
- A. Streptococcus salivaris
 - B. Streptococcus mitis
 - C. Streptococcus mutans
 - D. Streptococcus pyogenes
30. The initial changes in dental caries usually starts with the loss of
- A. Enamel prisms (loss of calcium initially that results in loss of enamel prisms)
 - B. Organic matrix
 - C. Inter-prismatic substance
 - D. Enamel sheath

PART II: Short Answer Questions (20 Marks)

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

1. What are the factors that influence the flap design in endodontic surgery? Describe briefly (5)
 2. Discuss about "New generation rotary instruments in endodontics"(5)
 3. Write short note on " recent advancement in endodontic irrigation system and devices" (5)
 4. Discuss on "management of perio-endo lesion involving disto-buccal root of upper second molar" (5)
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SECTION B (50 Marks)

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 young adult male of 21 years of age comes to your clinic with a complain of pain and mobility of mandibular right central incisor tooth after 2 years of endodontic treatment. He gives a history of having diabetes (type 1) and is on insulin for last 5 years. Radiographic examination of the affected tooth reveals a radiolucent area around the tooth with root resorption and short obturation by 2-3 mm. With this history in mind, answer the questions as follows:

1. How would you assess the case? Discuss briefly what other investigations would you consider for this case?(5+5)
2. What are the associated factors related with this problem? (5)
3. Discuss the treatment options for this case? (5)
4. Discuss about “Dental pulp stem cells in regenerative dentistry” (10)
5. What do you understand by “Hybrid canal preparation technique”? Discuss giving its limitations (5+5)
6. Has Covid-19 affected routine endodontic practices? If so how? Discuss safety and preventive measures to tackle and manage endo patients during covid-19 pandemic? (1+3+6)

CASE 2

A 22 years old female presented with notch-like fractures of incisal edges of 2 anterior teeth 12 and 21 and wanted cosmetic correction because she has to attend a selection interview for aircrew for Royal Bhutan Airlines in a 2 weeks' time. She also presented with mal-aligned lower anterior teeth with edge to edge bite. On examination her BP is 130/80 mm Hg. With this details in mind, answer the questions that follow?

1. Do you need to take any prophylactic measures in this patient? What is the prophylactic regimen as per AHA to patients (children and adults) having prosthetic valves/ stents? (2+8)
2. How will you design an aesthetic protocol in managing such a case?(10)
3. What other medical / dental histories and investigations do you need to consider in this patient? Why do you think her systolic BP is on the higher side? (5+5)
4. What recent ideas/ technologies can be implicated in direct cosmetic restoration?(10)
5. Write a short note on “Nano” technology in restorative dentistry. (10)

“Good Luck”

