

ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2023
EXAMINATION CATEGORY: TECHNICAL

PAPER III: SUBJECT SPECIALISATION PAPER FOR MEDICINE AND SURGERY

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| Date | : October 7, 2023 |
| Total Marks | : 100 |
| Writing Time | : 150 minutes (2.5 hours) |
| Reading Time | : 15 Minutes (prior to writing time) |

GENERAL INSTRUCTIONS:

1. Write your Registration Number clearly and correctly on the Answer Booklet.
2. The first 15 minutes is 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 & 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 of 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 the Section, Part and Question Number will NOT be evaluated and no marks will 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 must hand over the Answer Booklet to the Invigilator before leaving the examination hall.**
10. This 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 (d). Each question carries ONE mark. Any double writing, smudgy answers or writing more than one choice shall not be evaluated.

1. Angina is characterized by heavy or crushing central chest pain, which is
 - a) Aggravated by rest.
 - b) Relieved by rest.
 - c) Relieved by betablockers.
 - d) No change by rest.

2. Losartan belongs to
 - a) Angiotensin Converting Enzyme Inhibitor group
 - b) Angiotensin II Receptor Blocker group
 - c) Beta blocker group
 - d) Calcium channel blocker group

3. In ventricular septal defect, following are the features **EXCEPT**
 - a) Pansystolic murmur
 - b) Laterally displaced apex beat
 - c) Palpable thrill in the pulmonary area
 - d) Right ventricular heave

4. Primary hypothyroidism is diagnosed by
 - a) Decreased TSH and low free T4
 - b) Increased TSH and low free T3
 - c) Decreased TSH and high free T3
 - d) Increased TSH and low free T4

5. Metformin used in the treatment of diabetes, augments Insulin action by
 - a) Increasing glucose uptake in muscles.
 - b) Decreasing hepatic gluconeogenesis.
 - c) Increasing metabolism in the muscles.
 - d) All of the above.

6. In Bhutan, birth dose of hepatitis B vaccine is given
 - a) Within 48 hours
 - b) Within 24 hours
 - c) Within one week
 - d) After 48 hours

7. The loading dose of Magnesium Sulphate for eclampsia management is
 - a) 4gm IV and 10 gm IM
 - b) 4gm IV and 5 gm IM
 - c) 10gm IV and 4gm IM
 - d) 10gm IV and 8gm IM

8. Magnesium Sulphate toxicity is manifested by
- decreased urine output, absent knee reflex and increased respiratory rate.
 - decreased urine output, absent knee reflex and decreased respiratory rate
 - decreased urine output, brisk knee reflex and increased respiratory rate
 - decreased urine output, brisk knee reflex and diminished respiratory rate
9. Following is **NOT** a major criterion of modified Jones criteria for rheumatic fever diagnosis
- Polyarthritis
 - Chorea
 - Fever
 - Carditis
10. Neonatal jaundice is physiological if
- it occurs on the first day of life.
 - it lasts longer than 14 days.
 - jaundice present at palms and soles.
 - none of the above are present.
11. The drug of choice for treatment of Scrub typhus is
- Doxycycline 100mg bd
 - Doxycycline 200 mg bd
 - Tetracycline 500mg bd
 - Tetracycline 500mg bd
12. Extreme scar tissue overgrowth is termed as
- Hypertrophy
 - Contracture
 - Keloid
 - Stretching
13. Dinner fork deformity is seen in
- Monteggia fracture
 - Colles' fracture
 - Fracture of radius
 - Fracture of ulna
14. Triple therapy for eradication of H.pylori contains
- two antibiotics and one proton pump inhibitor.
 - one antibiotic and two proton pump inhibitors.
 - one antibiotic, one proton pump inhibitor and one H2 blocker.
 - two antibiotics and one H2 blocker.
15. Patients with Parkinson disease present with
- Resting tremor, rigidity and macrographia.
 - Essential tremor, cogwheel rigidity and micrographia.
 - Resting tremor, cogwheel rigidity and micrographia.
 - Narrow shuffling gait, paucity of facial expression and macrographia.

16. The murmur present in mitral stenosis is
- Pansystolic
 - Mid diastolic
 - Ejection systolic
 - Early systolic
17. Macrovascular complication of diabetes is
- Ischemic heart disease
 - Retinopathy
 - Nephropathy
 - Coagulopathy
18. The first stage in bone healing is
- Stage of granulation tissue
 - Stage of hematoma
 - Stage of callus
 - Stage of remodelling
19. Gonorrhoea which is caused by *Neisseria gonorrhoea*, appears in smear as
- Intracellular gram-negative diplococcus.
 - Extracellular Gram-negative diplococcus.
 - Extracellular Gram-positive diplococcus.
 - Intracellular Gram-positive diplococcus.
20. Complication of gastric ulcer is
- Gastrointestinal bleeding
 - Perforation
 - Pyloric stenosis
 - All of the above
21. Atypical pneumonia is caused by
- Pseudomonas* species
 - Hemophilus influenza*
 - Mycoplasma*
 - Cryptococci
22. Most important dose dependent side effect of INH is
- Arthralgia
 - Colour blindness
 - Ototoxicity
 - Peripheral Neuropathy
23. The most common site for intussusception is at
- Ileoileal area
 - Ileal-caecal junction
 - Colocolic area
 - Colorectal junction

24. In early pregnancy ultrasound scan is done for
- estimation of gestational age and foetal anomaly.
 - estimation of gestational age and foetal viability.
 - estimation of expected date of delivery and liquor volume.
 - estimation of expected date of delivery and foetal presentation
25. The commonest cause of postpartum hemorrhage is
- Trauma of the genital tract
 - Retained products of conception
 - Atonic uterus
 - Coagulopathies.
26. Which one of the following vaccines is a live vaccine?
- Tetanus diphtheria (Td)
 - BCG
 - IPV
 - Hepatitis B
27. Zero dose of Oral Polio Vaccine (OPV) is given
- At 6 weeks of age
 - Between birth and 6 weeks
 - Between birth and 2 weeks
 - After 9 months of age
28. AEFI stands for
- Adverse Effects Following Immunization
 - Adverse Events Following Immunization
 - Adverse Effects Following Injection
 - Adverse Events Following Injection
29. Maternal Mortality ratio is defined as the
- number of maternal deaths per 1000 delivery.
 - number of maternal deaths per 1000 live births.
 - number of maternal deaths per 100,000 live births.
 - number of maternal deaths per 100,000 pregnancies.
30. Open Vial policy or multi dose vial policy is **NOT** applicable to
- OPV
 - BCG vaccine
 - Td vaccine
 - Hepatitis B vaccine.

PART II – Short Answer Questions [20 marks]

This part has 4 Short Answer Questions. Answer ALL the questions.

Question 1

A 4-year-old child was brought to OPD with fever and maculopapular rash for a duration of 3 days. The rash started from the neck and has reached the abdomen. The mother also said that the child has cough and loss of appetite. On examination there was runny nose and red eyes.

- a) What is the most probable diagnosis? 1 mark
- b) Which vitamin is given as treatment and what dose? 2 marks
- c) Write two complications of the disease. 2 marks

Question 2

The main objective of Open vial policy is to reduce the vaccine wastage. It applies only to liquid vaccines and not to vaccines that need to be reconstituted. There are criteria for this practice. Answer the following questions.

- a) What is open vial policy (1 mark)
- b) What are the criteria to fulfil to practice open vial policy (2 marks)
- c) What does VVM mean and its use? (2 marks)

Question 3

A 20-year-old male was brought to the emergency early morning with history of acute abdominal pain for a duration of three hours. His pain started from the umbilical area and was colicky. On examination there was rebound tenderness at the right iliac fossa. The patient vomited twice at the emergency ward. He had mild fever, BP was 120/88mmHg and pulse rate of 100/minute.

- a) What is the most probable diagnosis? (1 mark)
- b) Write 3 differential diagnosis for this disease (3 marks)
- c) How will you manage this patient? (2 marks)

Question 4

A 52-year-old man has pain in the epigastric area for a duration of one month. The pain occurs after eating food. He has loss of appetite and weight. He gives a history of 2 episodes of passing black colour stool within the last 2 weeks. He smokes cigarette and consumes alcohol daily.

- a) What is your clinical diagnosis? (1 mark)
- b) Name the organism that causes this disease? (1 mark)
- c) Name one adaptive feature that allows the organism to colonise the gastric mucosa? (1 mark)
- d) How will you manage this patient? (2 marks)

SECTION B: Case Study [50 marks]

Choose either Case I OR Case II from this section. Each case study carries 50 marks. Mark for each sub-question is indicated in the brackets.

CASE I

A 45-year-old man visited a hospital with headache for a duration of 2 weeks with blurring of vision. On examination his blood pressure was 160/100mmHg and second reading was 160/90mmHg. He works in an office issuing driving licenses. He smokes 30 cigarettes and a bottle of beer daily. He drives to his office and back home. His height is 150cm and weighs 75kg.

1. What is the best method to confirm the diagnosis? (1 mark)

2. What are risk factors the patient has for the disease? (3 marks)
3. What is his BMI? Write the BMI calculation formula? Categorize BMI. (5 marks)
4. What are the other names for essential hypertension? (2 marks)
5. Define essential hypertension? (1 mark)
6. Write down the stages of hypertension? (5 marks)
7. When will you suspect secondary hypertension? (3 marks)
8. What are the basic tests done for cardiovascular risk assessment? How is the risk assessment done? (5marks)
9. Name the investigations done for target organ damage assessment (5 marks)
10. Classify the drugs used in the treatment of hypertension with examples. (10 marks)
11. Mention the complications of hypertension. (5 marks)
12. What advise will you give to this patient for blood pressure reduction? (5 marks)

CASE II

Mr. X, 42-year-old male complained of lethargy over the past month despite eating 5 times a day. He smokes and also takes alcohol regularly. He had been feeling thirstier than usual and had to wake up more frequently to urinate.

He also compliant of blurred vision. On examination his pulse rate was 75/min and BP 126/82mmHg. There was a non-healing ulcer on his right toe which had been there for 3 months. He weighs 80 kg and is 160 cm tall.

1. What is your clinical diagnosis and give reasons? (5 marks)
2. What other relevant history will you ask and how will you confirm your diagnosis? (5 marks)
3. Classify the disease. (7 marks)
4. How will you manage the patient? (15 marks)
5. Mention the complications of the disease. (6 marks)
6. What are the features that you would look for, in relation to his foot ulcer? (5 marks)
7. How will you manage his foot ulcer? (7 marks)

TASHI DELEK