

**ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2024
EXAMINATION CATEGORY: TECHNICAL**

PAPER III: SUBJECT SPECIALISATION PAPER FOR MEDICINE AND SURGERY

Date	: October 5, 2024
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. Which is **NOT** a risk factor for coronary artery disease in patients with hyperlipidemia
 - a) Cigarette smoking
 - b) Hypertension
 - c) High HDL
 - d) Family history of premature CAD

2. Target Blood pressure for hypertension treatment is
 - a) Systolic BP of 140 mmHg and diastolic BP 90 mmHg.
 - b) Systolic BP less than 140 mmHg and diastolic BP less than 90 mmHg.
 - c) Systolic BP less than 130 mmHg and diastolic BP less than 80 mmHg.
 - d) Systolic BP of 130 mmHg and diastolic BP of 80 mmHg.

3. Common symptom of Neisseria gonorrhoea in females is per vaginal secretion of
 - a) Thick white and curd like
 - b) Mucopurulent discharge
 - c) Thin, scanty, white and frothy
 - d) Copious, yellow-green and frothy.

4. Identify the live vaccines from the following
 - a) BCG and IPV
 - b) BCG and MMR
 - c) MMR and IPV
 - d) MMR and Pentavalent

5. Common side effect of amlodipine is
 - a) Dry cough
 - b) Edema
 - c) Palpitation
 - d) Hepatitis

6. Most common cause of death after acute MI is
 - a) Cardiac rupture
 - b) Pulmonary failure
 - c) Ventricular fibrillation
 - d) Ventricular septal rupture.

7. What part of the brain generates spontaneous breathing.
 - a) Cerebrum
 - b) Cerebellum
 - c) Pons
 - d) Medulla

8. Chronic bronchitis is defined as
 - a) Productive cough for at least 3 consecutive months in 2 consecutive years.
 - b) Productive cough for at least 2 consecutive months in 3 consecutive years.
 - c) Productive cough for at least 2 consecutive months in 2 consecutive years.
 - d) Productive cough for at least 3 consecutive months in 3 consecutive years.

9. Sinusoidal cause of esophageal varices is
 - a) Portal vein thrombosis
 - b) Cirrhosis
 - c) Portal biliary thrombosis
 - d) Hepatic vein thrombosis.

10. Beriberi is due to the deficiency of
 - a) Thiamine
 - b) Niacin
 - c) Vitamin E
 - d) Vitamin A.

11. Vitamin B12 requires intrinsic factor for absorption produced by
 - a) Duodenum
 - b) Stomach
 - c) Small intestine
 - d) Caecum

12. Normal BMI is
 - a) less than 18.5 Kg/m²
 - b) 18.6 -24.9 gm/m²
 - c) 18.6 -24.9 Kg/m²
 - d) 25 -29.5 Kg/m²

13. Most common malignant neoplasm of small intestine is
 - a) Carcinoid
 - b) Leiomyosarcoma
 - c) Adenocarcinoma
 - d) Lymphoma

14. For the treatment of Helicobacter pylori, the dose of amoxicillin is
 - a) 1000 mg daily
 - b) 500 mg twice a day
 - c) 1000 mg twice daily
 - d) 500 mg daily.

15. The most cause of chronic pancreatitis is
 - a) Genetic
 - b) Alcohol
 - c) Metabolic
 - d) Autoimmune

16. The most common gallstone is
- Pigmented
 - Black calcium bilirubinate
 - Cholesterol
 - Brown calcium salts.
17. Charcot's triad comprise of
- Right upper quadrant pain, jaundice and fever.
 - Right upper quadrant pain, jaundice and vomiting.
 - Right upper quadrant pain, diarrhoea and fever.
 - Right upper quadrant pain, hypotension and altered mental status.
18. The target blood pressure for diabetic patients without proteinuria is
- < 140/90 mmHg
 - < 130/80 mmHg
 - < 125/75 mmHg
 - < 120/80 mmHg
19. The drug of choice for treatment of hypertension in diabetic patients is
- ARB
 - ACEI
 - Beta blockers
 - CCB
20. The post renal cause of Acute Kidney Injury is
- Hypotension
 - Ischemia
 - Obstruction due to strictures
 - Nephrotoxins
21. A 25-year-old woman presented with hypotension, wheezing and urticaria, 10 minutes after a bee sting. What is the likely diagnosis?
- Shock
 - Systemic anaphylaxis
 - Urticarial reaction
 - Hyperactive pain reaction to bee sting.
22. Which species of plasmodium have a dormant phase in the liver?
- Plasmodium vivax and Plasmodium falciparum.
 - Plasmodium falciparum and Plasmodium ovale.
 - Plasmodium vivax and Plasmodium ovale.
 - Plasmodium malariae and Plasmodium ovale.
23. Hansen's disease is caused by
- Mycobacterium tuberculosis
 - Mycobacterium leprae
 - Mycobacterium bovis
 - Mycobacterium kansasii

24. Condyloma lata is caused by
- Human papillomavirus type 6
 - Treponema palladium
 - Human papillomavirus type 11
 - Treponema pertenuae
25. What are the vitamin K dependent clotting factors?
- Factors II, VII, IX and X
 - Factors II, VII, IX and XI
 - Factors V, VIII, IX and X
 - Factors V, VII, IX and XIII
26. Which one is the diagnostic criteria for GDM after OGTT, glucose value of?
- Fasting $\geq 92\text{mg\%}$
 - 1 hour $\geq 200\text{mg\%}$
 - 2 hour $\geq 140\text{mg\%}$
 - 2 hour $\geq 120\text{mg\%}$
27. In the treatment of eclampsia, the maximum dose of labetalol is
- 120 mg
 - 160 mg
 - 200 mg
 - 240 mg
28. The drug of choice for treatment of Scrub typhus is
- Doxycycline
 - Amoxicillin
 - Ciprofloxacin
 - Erythromycin
29. A teenage boy presents with sudden onset of right testicular pain. Which one of the following options needs to be excluded first?
- Orchitis
 - Epididymitis
 - Testicular torsion
 - Testicular trauma
30. A 21-year-old primi with known mitral stenosis came for ANC. Her echocardiogram shows a mitral valve area of 1.0 cm^2 and a mean gradient of 12 mmHg. What is most appropriate management plan for this patient?
- No intervention required but to continue with regular ANC
 - Plan for early delivery by caesarean section
 - Immediate balloon valvuloplasty
 - Treat with Betablockers

PART II – Short Answer Questions [20 marks]

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

1. A 35 year old male presented to the OPD with complaints of increased thirst, increased frequency of urine and polyphagia. His blood pressure is 120/80 mmHg. There is presence of a hyperpigmented skin lesion on the neck. He is not on any medication.
 - i. What is the most probable diagnosis? **(1 mark)**
 - ii. How will you confirm the diagnosis? **(2 marks)**
 - iii. Mention the three types of the disease **(2 marks)**

2. A 25-year-old primi delivered at 40 weeks of gestation normally a 3.5 kg male child. The blood pressure was 130/86 mmHg and pulse rate of 88/minute- immediate post partum. The uterus was soft. The staff on duty massaged the uterus and there was torrential vaginal bleeding. Within 10 minutes the blood pressure dropped to 90/60mmHg and pulse rate of 120/minute. The staff called for help.
 - i. What is this condition called? **(1 mark)**
 - ii. What is the most common cause of this condition? **(1 mark)**
 - iii. How will you manage the condition? **(3 marks)**

3. A 45 year old female was brought to the emergency with breathlessness for a duration of 2 hours. She had fever for the past 2 days. She gets cough especially on exposure to cold and dust. On examination BP was 130/96 mmHg, pulse rate of 100/minute and respiratory rate of 36/min. There was mild central cyanosis and rhonchi on auscultation.
 - i. How will you manage this patient? **(3 marks)**
 - ii. What is your diagnosis? **(1 mark)**
 - iii. How will you confirm the diagnosis? **(1 mark)**

4. A 16-year-old student was brought to the emergency after having swallowed 30 tablets of paracetamol 30 minutes ago. She had vomiting and abdominal pain. The patient was drowsy, pulse rate of 100/min, BP 110/80mmHg, T-37 °C and respiratory rate of 24/min.
 - i. What is the immediate treatment for the patient? **(2 marks)**
 - ii. Outline the long-term management of the patient **(3 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 41-year-old male had three episodes vomiting blood at home and once on arrival at emergency department. He also gave history of passing black colour stool. He regularly consumes alcohol. On examination he is conscious, pale with ascites. The blood pressure is 90/60mmHg, pulse rate 100/minute, respiratory rate of 16/minute. He was on omeprazole for gastritis for a duration of one month.

- i. How will you manage this patient initially? **(10 marks)**
- ii. How is the site of the bleeding determined? **(5 marks)**
- iii. Name 5 common causes of upper GI bleed. **(5 marks)**
- iv. List 5 common causes of lower GI bleed **(5 marks)**
- v. Patients blood reports show -hemoglobin of 4 gm%, WBC within normal limits, liver enzymes grossly deranged. Hepatitis B antigen was positive. What is your decision? **(5 marks)**
- vi. Patient complains of breathlessness and itching after 5 minutes of blood transfusion. On examination there was urticarial rashes and swelling of the lips. What is your diagnosis of this condition? How will you manage **(10 marks)**
- vii. When will you discharge the patient? Detail the long term management of patient **(10 marks)**

CASE II

A 35-year-old male presented to a district hospital OPD with productive cough for a duration of 3 weeks. He also had mild fever, night sweats and unexplained weight loss. On examination the blood pressure was 160/110 mmHg, pulse rate of 88 per minute, mild pallor, no icterus. The cervical lymph nodes were not palpable. Chest was clear on auscultation. On the above findings the medical officer made diagnosis of presumptive tuberculosis.

- i. How will you confirm the diagnosis? **(5 marks)**
- ii. List the types of extra pulmonary TB **(4 marks)**
- iii. Classify TB based on history of previous TB treatment. **(7 marks)**
- iv. Define treatment outcome of a TB patient **(7 marks)**
- v. What are the aims of treating TB? **(5 marks)**
- vi. Mention 3 basic principles of TB treatment **(3 marks)**
- vii. What are the advantages of FDC (fixed dose combinations) drug **(3 marks)**
- viii. Write the names with strengths of drugs in 4 FDC and 2FDC? **(6 marks)**
- ix. Name the treatment phases with duration **(4 marks)**
- x. What is DOTS? Explain. **(2 marks)**
- xi. What are the four targets of National TB control program (NTCP) **(2 marks)**
- xii. What is latent TB? **(2 marks)**

TASHI DELEK