

ROYAL CIVIL SERVICE COMMISSION  
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2018  
EXAMINATION CATEGORY: TECHNICAL

PAPER III: SUBJECT SPECIALISATION PAPER FOR MEDICINE AND SURGERY

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<b>Date</b>	: 7 October 2018
<b>Total Marks</b>	: 100
<b>Writing Time</b>	: 150 minutes (2.5 hours)
<b>Reading Time</b>	: 15 Minutes (prior to writing time)

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**GENERAL INSTRUCTIONS:**

1. Write your Registration 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 & SECTION B:
  - **SECTION A** has two parts: Part I - 30 Multiple Choice Questions  
Part II - 4 Short Answer QuestionsAll 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 are required to hand over the Answer Booklet to the Invigilator before leaving the examination hall.**
10. This paper has **9 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. A 31-year-old woman comes to the physician for follow-up after an abnormal Pap test and cervical biopsy. The patient's Pap test showed a high-grade squamous intraepithelial lesion (HGSIL). This was followed by colposcopy and biopsy of the cervix. The biopsy specimen also demonstrated HGSIL. The patient was counselled to undergo a loop electrosurgical excision procedure (LEEP). Which of the following represents the potential long-term complications from this procedure?
  - a) Abscess and chronic pelvic inflammatory disease.
  - b) Cervical incompetence and cervical stenosis.
  - c) Constipation and fecal incontinence.
  - d) Hernia and intraperitoneal adhesions.
2. A 27-year-old woman, gravida 2, para 2, comes to the physician to have her staples removed after an elective repeat cesarean delivery. Her pregnancy course was uncomplicated. She states that she is doing well except that since the delivery she has noticed some episodes of sadness and tearfulness. She is eating and sleeping normally and has no strange thoughts or thoughts of hurting herself or others. Physical examination is within normal limits for a patient who is status post cesarean delivery. Which of the following is the most likely diagnosis?
  - a) Maternity blues
  - b) Postpartum depression
  - c) Postpartum mania
  - d) Poststerilization depression
3. A 16-year-old female comes to the physician because of an increased vaginal discharge. She developed this symptom 2 days ago. She also complains of dysuria. She is sexually active with one partner and uses condoms intermittently. Examination reveals some erythema of the cervix but is otherwise unremarkable. A urine culture is sent which comes back negative. Sexually transmitted disease testing is performed and the patient is found to have gonorrhea. While treating this patient's gonorrhea infection, treatment must also be given for which of the following?
  - a) Bacterial vaginosis
  - b) Chlamydia
  - c) Herpes
  - d) Trichomoniasis
4. A 16-year-old nulligravid woman comes to the emergency department because of heavy vaginal bleeding. She states that she normally has heavy periods every month but missed a period last month and this period has been unusually heavy with the passage of large clots. She has no medical problems, has no history of bleeding difficulties, and takes no

medications. Her temperature is 37C (98.6 F), blood pressure is 110/70 mm Hg, pulse is 96/minute and respirations are 12/minute. Pelvic examination shows a moderate amount of blood in the vagina, a closed cervix, and a normal uterus and adnexae. Hematocrit is 30%. Urine hCG is negative. Which of the following is the most appropriate management?

- a) Expectant management
  - b) Hysteroscopy
  - c) Oral contraceptive pills
  - d) Laparotomy
5. A 29-year-old woman, gravida 2, para 1, at 38 weeks' gestation comes to the labour and delivery ward with frequent painful contractions. Her prenatal course was significant for a urine culture that showed 100,000 colony-forming units/milliliter of Group-B streptococci and asthma, for which she uses an albuterol inhaler. Examination shows that she is contracting every 2 minutes and her cervix is 5 centimeters dilated and 100% effaced. Which of the following medications should this patient be treated with during labour and delivery?
- a) Betamethasone
  - b) Folic acid
  - c) Magnesium sulfate
  - d) Penicillin
6. A 31-year-old primigravid woman comes to the physician for a prenatal visit. She is known to be HIV positive. She also has asthma, for which she uses an inhaler. She had a diagnostic laparoscopy at age 20 for pelvic pain and has had no other surgeries. She has no known drug allergies. Extensive counseling is given to the patient regarding vertical transmission of HIV to the fetus. It is recommended to her that she take antiretroviral therapy during the pregnancy to decrease the vertical transmission rate. It is also recommended to her that she have a scheduled cesarean delivery. After consideration of these options, the patient chooses not to take the antiretrovirals and opts for a vaginal delivery. Which of the following represents the approximate risk of vertical transmission (from the mother to the fetus) for this patient?
- a) 2%
  - b) 8%
  - c) 25%
  - d) 50%
7. A 10-day-old full term female is brought to the ER after 10 episodes of bilious emesis and increasing abdominal distension over the last 24 hours. She has no past medical history. She passed stool within 48 hours of life and has had a soft stool every 1-2 days since discharge. On physical exam, she has mild tachycardia, a distended, tender, tympanic abdomen, and increased tone on digital rectal exam with no retained fecal material. Upon withdrawal of your finger, a large amount of liquid stool and foul smelling gas is released.

Which of the following is the BEST initial step in management of this patient?

- a) Barium enema
- b) IV antibiotics

- c) Stool sample for Clostridium difficile toxin
  - d) Surgical correction
8. A 12-yr-old asthmatic boy has developed an asthma exacerbation in the past few days. Asthma symptoms have continued to progress despite frequent albuterol use at home. He comes to the emergency department with chest tightness, dyspnea, and wheezing, and in moderate respiratory distress. In this setting, management should include all of the following EXCEPT:
- a) Supplemental oxygen
  - b) Inhaled albuterol
  - c) Theophylline
  - d) Systemic glucocorticoids
9. What is the best test to follow up patients with Barrett esophagus?
- a) Upper endoscopy
  - b) Barium swallow
  - c) CT scan
  - d) Guaiac stool test
10. Which of the following is a not surgical treatment for varicose veins?
- a) Ambulatory phlebectomy
  - b) Laser ablation
  - c) Endoscopic or catheter -assisted surgery
  - d) Ultrasound
11. In an 18-year-old diabetic female with fever and left flank pain, urine reveals white cells casts in urine. Which of the following diseases is she likely suffering from?
- a) Urinary tract infection
  - b) Pyelonephritis
  - c) Diabetic nephropathy
  - d) Renal infarction
12. Approximately 10 days after a viral respiratory illness, a 16-month-old child is seen because of abdominal pain and bloody, mucus rectal discharge. A sausage-shaped mass is palpable in the right upper quadrant. Which of the following is TRUE about intussusception?
- a) Recurrence rates are common after treatment.
  - b) It is frequently preceded by a gastrointestinal viral illness.
  - c) Total parenteral alimentation should precede surgery.
  - d) Hydrostatic reduction with barium should be attempted at least 3-4.
13. What finding is found with use of depot medroxyprogesterone acetate (DMPA) contraception?
- a) Increased migraines
  - b) Accelerated bone loss

- c) Increased risk of endometrial cancer
  - d) Increased risk of teratogenicity in future pregnancies
14. Which of the following medications is most likely to cause elevated blood pressure and heart rate?
- a) Ketorolac
  - b) Morphine
  - c) Ketamine
  - d) Fentanyl
15. A patient complains of left shoulder pain and has difficulty abduction the arm. What tendon is most likely involved?
- a) Supraspinatus
  - b) Teres major
  - c) Triceps
  - d) Long head of biceps
16. When bone is exposed, what is the stage of the decubitus ulcer?
- a) I
  - b) II
  - c) III
  - d) IV
17. A football player has been having severe right knee pain after an injury. An MRI is performed which the radiologist reads as an "absent bow tie" sign. Which of the following is suggested by these results?
- a) Bucket handle tear of menisci
  - b) Patellar tendon fracture
  - c) Knee dislocation
  - d) Lateral collateral ligament injury
18. Which nerve is most likely to have been injured in a patient who is hoarse after a thyroidectomy?
- a) Superior laryngeal
  - b) Recurrent laryngeal
  - c) Inferior laryngeal
  - d) Vagus
19. Which practice can prevent the progression of renal impairment to end stage renal disease?
- a) Serum creatinine /BUN monthly
  - b) Intravenous hydration when using radiographic contrast
  - c) High protein diet
  - d) Low sodium and high potassium diet

20. Which of the following patients should not receive influenza virus vaccine?
- HIV patients
  - Young children
  - Elderly
  - A patient who develop Guillain-Barre syndrome after vaccination in the past.
21. A patient complains of chest pain with eating, which is worse with solids. Barium swallow shows a dilated esophagus and achalasia. At which anatomic location is swallowing induced relaxation reduced?
- Middle of the esophagus
  - Upper esophageal sphincter
  - Lower esophageal sphincter
  - Pharynx
22. A patient is involved in a motorbike accident and has severe head trauma. A CT scan reveals swelling of the brain with diffuse bleeding. He has a Glasgow coma score of 10. It is decided to treat this patient conservatively with supportive care. What drug can make the patient's condition worse?
- Mannitol
  - Phenytoin
  - Prednisone
  - Morphine
23. A patient presents with epigastric pain, nausea, jaundice and shoulder pain. The optimal diagnostic study is:
- Endoscopic retrograde cholangiopancreatography
  - Ultra sound
  - CAT Abdomen and pelvis
  - HIDA scan
24. A 65-year-old in neurology clinic demonstrates extensor plantar reflex when his achilles tendon is squeezed. What could this indicate?
- Achilles tendon rupture
  - Plantar fasciitis
  - Upper motor neuron lesion
  - Intact corticospinal tract
25. When assessing a patient with obsessive compulsive disorder, which symptoms would indicate a second neurologic disorder?
- Stuttering, strange or repetitive vocalizations, motor tics.
  - Anxiety and panic attacks.
  - Eating binges.
  - Use of drugs and alcohol.

26. During an anxiety attack, which nervous system is activated?
- a) Somatic
  - b) Parasympathetic
  - c) Sympathetic
  - d) Voluntary
27. An 18-year-old with an inherited disorder presents to the cardiology clinic for a routine exam. He is a tall, thin male who had a pneumothorax two months ago. Auscultation reveals that the chest is clear but he has a "clicking" sound in his heart. Which of the following conditions does he most likely have?
- a) Marfan syndrome
  - b) Down syndrome
  - c) Pericardial effusion
  - d) Mitral stenosis
28. A 70 year old male had been discharged from the hospital 1 day ago after a mild stroke. He calls with new onset of a mild generalized headache without associated symptoms. He had been started on some new medications in the hospital. Select the medication most likely to be causing the headache.
- a) Simvastatin
  - b) Amlodipine
  - c) Aspirin with extended release dipyridamole
  - d) Chlorothiazide
29. As per ACLS 2015 guideline, what is the correct depth of chest compressions in an adult?
- a) As deep as possible
  - b) Up to 2 inches
  - c) Between 2 and 2.4 inches
  - d) At least 3 inches
30. Reed-stenberg cells are characteristic of
- a) Hodgkin's lymphoma
  - b) Non – Hodgkin's lymphoma
  - c) Burkitt's lymphoma
  - d) B-cell lymphoma

**PART II – Short Answer Questions (20 marks)**

**This part has 4 Short Answer Questions. Answer ALL the questions. Each question carries 5 marks.**

1. Describe etiopathology, clinical features and management of acute pancreatitis.
2. Describe etiology, clinical features, investigations, complications and management of Tuberculous Meningitis.
3. Discuss differential diagnosis of hematuria in a 6 year old child. Outline investigations and management in such a child.
4. Enumerate the causes of pelvic inflammatory disease, discuss the clinical presentation and management of acute pelvic inflammatory disease.

**SECTION B**

**Case Study**

**Choose either Case I OR Case II from this section. Each case study carries 50 marks.**

**Case I**

A 6 week old baby boy (born at 36 weeks gestation) has seen a multiple doctors over the past 2 weeks because of vomiting. He has been started on omeprazole and thickened feeds to treat a presumptive diagnosis of reflux.

His parents are concerned as he remains unwell. They have brought him to your emergency department for further review. His vomiting is worse and occurs after every feed. His mother describes the vomitus as resembling ‘curdled milk’. His nappies are much less wet than usual, he is listless and he has had ~500g of weight loss over the last week.

1. What are the important differentials to consider in infants with vomiting? (10 marks)
2. What are the common causes of non-bilious vomiting in infants? (6 marks)
3. While you assess the baby, he vomits. Splat! You are now wearing it. The word ‘projectile’ springs to mind. What is the likely diagnosis? (4 marks)
4. What are the risk factors for this condition? (5 marks)
5. On taking a history, what features would be consistent with this diagnosis? (5 marks)
6. What features on examination must be assessed when considering this diagnosis? (5 marks)



7. What would be the key findings on the venous blood gas? (5 marks)
8. What is the key investigation for clinching the diagnosis, and what other investigations would you perform? (5 marks)
9. Describe your approach to the management of this condition. (5 marks)

## **Case II**

A tourist comes to OPD to seek your advice as he is planning to go for ‘Snowman Trek’ which is known to be the toughest treks in Himalaya with altitude above 4000m above sea level next month.

He has never been to altitude before and asks you how he can prevent altitude sickness while on his trek...

1. Who is at risk for acute mountain sickness? (5 marks)
2. What life-threatening conditions are associated with high altitude? (5 marks)
3. What is the pathophysiology of high altitude illness? (5 marks)
4. Can these conditions be prevented? (10 marks)
5. What is the treatment? (5 marks)
6. What are the important management issues to consider in a patient who has both HAPE and HACE? (10 marks)
7. What drug dosages should be used in the prevention and treatment of HAI? (10 marks)

**TASHI DELEK**