

ROYAL CIVIL SERVICE COMMISSION

BHUTAN CIVIL SERVICE COMMON EXAMINATION (BCSCE) 2011

EXAMINATION CATEGORY: TECHNICAL

PAPER III: SUBJECT SPECIALIZATION PAPER FOR MEDICINE

Date: 28/10/2011

Total Marks: 100

Examination time: Two and half hours

Reading time: Fifteen minutes (prior to examination time)

This question paper consists of seven pages and two sections: Section A and B.

Section A consists of 30 multiple choice questions carrying 1 (one) mark each and four short questions carrying 5 (five) marks each. Candidates will have to answer all the MCQs and four short questions from section A. Section A (50 marks)

Section B consists of only two case studies. Candidates will be required to attempt only one of the two case studies. Section B (50 marks)

SECTION A: MULTIPLE CHOICE QUESTIONS

Choose the most correct/appropriate answer and write against the question number.

1 The disease which is associated with increased age of the father is

- a) Down's Syndrome
- b) Marfan's Syndrome
- c) Phenyl Ketonuria
- d) Albinism

2 Protein antigens are detected by

- a) Southern blotting
- b) Northern blotting
- c) Western blotting
- d) Eastern blotting

3 D- Penicillamine is used in the treatment of

- a) Cystinuria
- b) Parkinsonism
- c) Lead Poisoning
- d) None of the above

4 Most common cause of death in infancy in Down's syndrome is

- a) Kernicterus
- b) Septicemia
- c) Congenital heart disease
- d) Intestinal obstruction

5 Retroviruses contain

- a) DNA
- b) RNA
- c) 60 s RNA only
- d) Both DNA and RNA

6 The major serum immunoglobulin (Ig) is

- a) Ig G
- b) Ig M
- c) Ig D
- d) Ig E

7 Drug used in the post herpetic neuralgia is

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

8 The most available source of energy in the body is

- a) Fats
- b) Proteins
- c) Carbohydrate
- d) Minerals

9 Acute Cardiac Asthma is differentiated from Bronchial Asthma by

- a) Presence of bubbly airway sounds
- b) Cyanosis
- c) Diaphoresis
- d) All of the above

10 The commonest congenital Heart diseases with cyanosis in the adults is

- a) Eisenmengers's syndrome
- b) Tetralogy of Fallot
- c) Preductal coarctation of the Aorta
- d) Mitral Valve Prolapse

11 Which is not a good indicator of efficacy of treatment of Shock?

- a) Central Venous Pressure
- b) Urine flow rate
- c) Heart rate
- d) BP

12 The most common cause of upper GI bleed is

- a) Gastritis
- b) Peptic ulcer
- c) Ruptured varices
- d) Mallory-Weiss syndrome

13 The earliest ECG changes in hyperkalaemia is

- a) Prolonged QT interval
- b) Tall peaked T waves
- c) Prolonged PT interval
- d) T wave inversion

14 The safe antibiotic in pregnancy is

- a) Chloramphenicol
- b) Tetracycline
- c) Streptomycin
- d) Erythromycin

15 Patients with infectious mononucleosis develops rash when treated with

- a) Tetracycline
- b) Ampicillin
- c) Sulfonamides
- d) Cephalosporin

16 A flu like syndrome is seen with

- a) Rifampicin
- b) PAS
- c) INH
- d) Thiacetazone

17 The lipoprotein which is protective against atherosclerosis is

- a) HDL
- b) LDL
- c) VLDL
- d) Chylomicrons

18 The most common cause of death in hypertension is

- a) Stroke
- b) Renal failure
- c) Heart disease
- d) Embolism

19 The drug contraindicated in pregnancy is

- a) Hydrallazine
- b) Methyl dopa
- c) Propanolol
- d) Enalapril

20 Cerebral Malaria is caused by

- a) Plasmodium vivax
- b) Plasmodium falciparum
- c) P Plasmodium ovale
- d) Plasmodium malariae

21 Infertility due to female related causes is most often due to

- a) Failure of ovulation
- b) Pelvic factors
- c) Cervical factors
- d) None of the above

22 The most common type of Epilepsy is

- a) Petit mal
- b) Grand mal
- c) Infantile spasm
- d) Atypical absence

23 Anticoagulant of choice in pregnancy is

- a) Heparin
- b) Warfarin
- c) Dindevan
- d) Phenindione

24 Commonst cause of community acquired Pneumonia in adults is

- a) Legionella Pneumophilla
- b) Mycoplasma Pneumoniae
- c) Streptococcus Pnemoniae
- d) Chylamdia Pneumoniae

25 The most common bacterial infection in pregnancy is

- a) LRI
- b) URI
- c) UTI
- d) Skin infection

26 Clubbing is seen in all except

- a) Cirrhosis
- b) Empyema
- c) Left to right shunt
- d) Pulmonary AV fistula

27 Which of the following predisposes to digoxin toxicity?

- a) Hypokalemia
- b) Hypocalcaemia
- c) Alkalosis
- d) Hyperthyroidism

28 External Cardiac massage is usually done in the

- a) Middle of sternum
- b) Lower 1/3 of the sternum
- c) Manubrium
- d) Xiphisternum

29 Hook worm infestations is caused by

- a) *Ascaris lumbricoides*
- b) *Ancylostoma duodenale*
- c) *Trichuris trichuria*
- d) *Schistosoma mansoni*

30 Colostrum is produced postnatally for

- a) 4 days
- b) 7 days
- c) 14 days
- d) 4 weeks

Short answer questions:

Answer all the questions.

1 .Mrs. Pema presents to labor and delivery room at 34 weeks of gestation complaining of regular uterine contractions about every 5 min for the past several hours. She is 32 years old G2P0L0. She has noticed the passage of clear fluid per vaginum.The CTG demonstrates reactive fetal heart rate tracing with regular uterine contractions about every 3-4 minutes .On sterile speculum examination. The cervix is visually closed. A sample of pooled amniotic fluid is seen in the vaginal vault. She has a temp of 102 degree Fahrenheit. Her fundus is tender to deep palpation. Her TLC is 19,000. The patient is very concerned because she had previously delivered a baby at 35 weeks who suffered respiratory Distress Syndrome.USG shows cephalic presentation, fetal size appropriate for gestational age and oligohydramnios.

Discuss with reasons what is the appropriate step in the management of this patient? (1 mark each)

- a) Diagnose her as Chorioamnionitis or not
- b) Administer or not to administer Tocolytic
- c) Perform or not to perform emergent C/S
- d) Diagnose her as PROM or not
- e) Administer antibiotics or not

2. Discuss with reasons why the following are the 5 most important things to do in a new born infant. (1 mark each)

- a) Keep the baby warm
- b) Initiate early breast feeding
- c) Clean cord tie and hand washing
- d) Give vitamin K injection
- e) Count respiration and heart rate.

3. Discuss briefly how will you manage a case of upper GI bleeding? (5 marks)

4. Discuss briefly how will you manage a 45 years old chronic smoker with hypertension on antihypertensive presenting with blood sugar level above 330 mg/dl on fasting ?(5 marks)

Section B: Case Studies

Given below are two case studies. Read the cases carefully and answer the questions given below after each case. You need to attempt only one case study.

Case study one

Mr. Sonam is a 45 years old man. He stays with his family in Paro. He is a chronic smoker and overweight. His father had expired of chronic diabetic complication in JDWNRH Thimphu 10 years back. His wife, Pema Choden is 39 years old. She has conceived for the first time after their marriage and is at 39 weeks of gestation. She has been referred from Paro hospital to JDWNRH Thimphu because her blood pressure reading was 150/100 mmHg. Her baseline BP during the pregnancy was 100- 120/60-90. She denies of any headache, visual changes or abdominal pain. She has edema of legs. Her CTG is reactive and indicates irregular uterine contractions. Her P/V findings are 2-3 cm dilated, 50 % effaced, station at 0. Her repeat BP is 160/90 mm Hg. Hematocrit is 34.0 Platelets 160,000, SGOT is 22 SGPT is 15, urine is negative for protein.

Discuss with reason for each of the following is most likely (or) unlikely diagnosis of Mrs. Pema Choden. (2 marks for each)

- a) Preeclampsia
- b) Chronic Hypertension
- c) Chronic Hypertension with superimposed Preeclampsia
- d) Eclampsia
- e) Pregnancy induced Hypertension

While Mrs. Pema Choden is being examined in JDWNRH's Casualty, she develops headache and feels funny. The casualty doctor observes her undergoing tonic-clonic seizure. The doctor secures the airway and within a few minutes the seizure is over. Her blood pressure indicates 160/110 mmHg. The casualty doctor orders an immediate CTG and observes a fetal heart rate tracing down to sixties (bradycardia)

Discuss with reason why all of the following a,b,c,d are appropriate management of Mrs. Pema Choden's condition and e is not appropriate. (2 marks each)

- a) Plan for induction of labour with amniotomy and Oxytocin.
- b) Lower Pema Choden's BP with Hydrallazine
- c) Begin magnesium sulphate IV
- d) Place a Foley's catheter
- e) Prepare for emergent C/S

After the convulsion Mrs. Pema Choden was put on magnesium sulphate. All of the following would be indications that Pema Choden's is receiving too much magnesium sulphate and needs her infusion dose lowered except (2 marks each)

- a) Hyper-reflexia
- b) Disappearance of patellar reflexes
- c) Respiratory Depression
- d) Somnolence
- e) Slurred speech

Mr. Sonam on seeing his wife's condition in the casualty develops acute chest pain with diaphoresis and tachycardia. The duty doctor orders for a base line investigation and ECG which shows sinus tachycardia. The duty doctor then gives Mr. Sonam a shot of Inj.morphine and oxygen through the nasal cannula and orders complete bed rest, while awaiting investigation reports and specialist consultation.

Explain with reasons why the Casualty doctor's action is justified and elaborate on the further course of management for Mr. Sonam. (20 marks)

Case study two

Mr. Tashi is having breathing difficulty on and off seasonally since his childhood. Today he is driving on a cold winter morning to the labour and delivery room of JDWNRH Thimphu as his wife, Mrs. Tandin Pem is pregnant and having some bleeding problem. Mr. Tashi is also experiencing some tightness in the chest and difficulty breathing. He has been off his medicines for some time now.

Mrs. Tandin Pem, a healthy 42 years old G2P1 (TPAL:1001) presents to the labor and delivery room at 30 weeks gestation complaining of a small amount of bright red blood per vagina earlier in the day. The bleeding occurred shortly after intercourse. It started off as spotting and then progressed to a light menses. By the time she arrived in the labor and delivery room, the bleeding had completely resolved. The patient denies of any regular uterine contractions, but admits to occasional abdominal cramping. She reports the presence of good fetal movements. She denies of any complications during the pregnancy. She had a normal sonogram at 20 weeks as a part of her routine pre-natal care. Her obstetric history is significant for a previous low transverse cesarean section at term for a fetus that was footling breech. She wants to have an elective repeat cesarean section with a tubal ligation for delivery of this baby when she gets to term.

Explain with reason for each (1.5 marks each)

All of the following should be included in the list of differential diagnosis for the bleeding except

- a) Cervicitis
- b) Preterm labor
- c) Placental abruption
- d) Placenta previa
- e) Subserous pedunculated uterine fibroid
- f) Uterine rupture

Explain with reason, what is the next appropriate step in the management of Mrs. Tandin? (2 marks each)

- a) Send her home, since the bleeding has completely resolved and she is experiencing good fetal movements
- b) Perform a sterile digital examination
- c) Perform a amniocentesis to rule out infection
- d) Perform a sterile speculum examination
- e) Perform an ultrasound examination

Mrs. Tandin is placed on an external monitor after an ultrasound examination revealed a partial placenta previa. No uterine contractions are demonstrated, but she starts to bleed heavily. All of the following are appropriate next steps except: (Explain with reason 1.5 mark each)

- a) Administer intramuscular terbutaline as soon as possible
- b) Type and cross match for four units of packed red blood cells
- c) Administer an intravenous fluid bolus
- d) Place a Foley's catheter
- e) Call anesthesia

Mrs. Tandin continues to bleed, and you observe persistent late deceleration on the fetal heart monitor with loss of variability in the base line. Her blood pressure and pulse are normal. You explain to the patient that she needs to be delivered. You counsel regarding all of the following except :- (explain with reason for each) 1.5 marks each

- a) She may require a blood transfusion
- b) She may require a cesarean Hysterectomy
- c) Tubal ligation is recommended at the time of cesarean section
- d) The baby may require resuscitative measure at delivery

The patient is delivered by cesarean section under general anesthesia. The baby and the placenta are easily delivered, but the uterus is noted to be boggy and atonic despite intravenous infusion of oxytocin. All of the following are appropriate agents to use except (give reason 0.5 mark each)

- a) Methargine intramuscularly
- b) Prostaglandin F 2 alpha suppositories
- c) Misoprostil suppositories
- d) Terbutaline administered intravenously
- e) Prostaglandin E2 suppositories

Mr. Tashi is worried extremely by the operation and post operative condition of his wife. His breathing problem increased and he has been barely able to speak in full sentences. He has become bluish and tachypnoeic. His chest pain has also increased. Doctor has ordered for relevant investigations.

Discuss and explain what Mr.Tashi's likely diagnosis is and what the indication that he is seriously ill is. Outline immediate and long term management for Mr. Tashi. (15 marks total)