

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

Total No. of SEQs: 15

Total Marks: 45

Time 2 hours 15 min.

Note: 3 Marks for each question.

- Q1. A patient with polyuria is suspected to have diabetes mellitus:**
- a) How will you establish this diagnosis? Write down the diagnostic criteria recommended by World Health Organization. 2**
- b) What are indications for oral Glucose Tolerance Test? 1**

Topic: Establishing Diagnosis of Diabetes Mellitus

Key of Q.1:

- a) If a patient complains of symptoms suggesting diabetes mellitus then:
- Test urine for glucose and ketone.
 - Measure random or fasting blood glucose.

Diagnosis is confirmed by:

Fasting Blood Glucose → >126 mg/dl **1**

Random Blood Glucose → > 200 mg/dl **1**

- b) Indications for Oral Glucose Tolerance are:

Fasting Blood Glucose → 110 – 126 mg/dl **1/2**

Random Blood Glucose → 140 – 199 mg/dl **1/2**

Reference:

Establishing Diagnosis of Diabetes Mellitus

Davidson's Principles and Practice of Medicine (Page No. 817)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

- Q2. A sixty year old man gives history of brief episodes of Lancinating pain on his right jaw while chewing and swallowing:**
- a) What physical signs are found on examination? 1**
- b) How will you treat pain in this patient? Write down medical and surgical treatment? 2**

Topic: Trigeminal Neuralgia (Neurological Disease)

Key of Q.2:

- a) In this patient of trigeminal neuralgia usually there are no signs. Examination reveals trigger zones within the trigeminal territory. Pain is precipitated by touching these trigger zones. If similar symptoms occur in multiple sclerosis than some sensory change may be found. 1
- b) Medical management: Drugs like carbamazepine, gaba pentin and phenytoin may be effective. 1
- Surgical management: 1
- Injection of phenol or alcohol into a peripheral branch of nerve.
 - Placing a radiofrequency lesion in Gasserian Ganglion.
 - Neurosurgical decompression by posterior craniotomy.

Reference:

Trigeminal Neuralgia (Neurological Disease)
 Davidson's Principles and Practice of Medicine (Page No. 1164)

**BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER**

- Q 3. An eighteen year old girl gives history of bleeding from gums and menorrhagia. Her platelet count is greatly reduced. Bone marrow examination shows increased megakaryocytes.**
- a) Write down three steps in treatment. 2**
- b) How will you manage a life threatening episode of bleeding in this patient? 1**

Topic: Idiopathic Thrombocytopenic Purpura (Blood Disorders)

Key of Q.3:

a) Treatment of an Adult With Idiopathic Thrombocytopenic Purpura Includes:

Step I:

Prednisolone is started 1mg / kg body weight. Patient count rises in response to this therapy but may fall again when dose is reduced or stopped.

Relapse is treated by increasing dose of prednisolone. 1

Step II:

If two relapses occur then splenectomy is done. It is curative in 70% cases. Prednisolone is continued if symptoms recur. 1/2

Step III:

If bleeding still occurs despite splenectomy plus low dose steroids then immunosuppressants like vincristine or cylophosphamide id given or repeated infusions of immunoglobulins are considered. 1/2

b) Life threatening bleeding is treated with platelet concentrates and intravenous immunoglobulins. 1

Reference:

Idiopathic Thrombocytopenic Purpura (Blood Disorders)
Davidson's Principles and Practice of Medicine (Page No. 1056)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

- Q 4. a) What are various routes of transmission of Hepatitis B virus? 1**
b) Write down about Hepatitis B vaccination and its indications. 2

Topic: Hepatitis B (Liver and Biliary Tract Diseases)

Key of Q.4:

a) Routes of Transmission for hepatitis B virus are: (1/2+1/2=1)

Horizontal Transmission (10%). 1/2

- Injection drug use.
- Infected unscreened blood products
- Tattoos / acupuncture needles.
- Unsterilized surgical instruments.
- Sexual (homosexual and heterosexual).

Vertical Transmission (90%). 1/2

- HBsAG mother to child in the perinatal period.

b) Hepatitis B Vaccine: (1/2+1+1/2=2)

A recombinant vaccine containing HBsAg is available. (ENGEREX) which produces active immunization in 95% of normal individuals. 1/2

Its indications are:

- Intravenous drug users.
- Homosexuals.
- Close contacts of infected individuals (newborn of infected mothers + sexual partners).
- Patients of chronic liver disease.
- Medical and nursing personnel. 1

Infection can be prevented by injection of hyperimmune serum globulins within one week of exposure to infected blood like after needle stick injuries. 1/2

Reference:

Hepatitis B

Davidson's Principles and Practice of Medicine (Page No. 964 and 967)

BDS THIRD PROFESSIONAL EXAMINATION 2007
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MODEL PAPER

- Q5. a) Enumerate at least two invasive and two non invasive methods for diagnosis of Helicobacter pylori. 1+1=2**
b) Write down one regime for H.pylori eradication and its indications. 1/2+1/2=1

Topic: Peptic ulcer Disease (Alimentary Tract and Pancreatic Disease)

Key of Q.5:

a) Methods for Diagnosis of helicobacter Pylori Infection:

Non-Invasive Tests: 1

- Serology.
- Urea breathe test.
- Fecal antigen test.

Invasive (Antral Biopsy): 1

- Histology.
- Culture.
- Rapid urease test.

b) First line therapy is a proton pump inhibitor (12Hourly) + Clarithromycin 500 mg (12 Hourly) + Amoxicillin One gram (12 hourly). For seven days. 1/2

Indications: 1/2

- All patients with acute or chronic duodenal ulcer.
- Patients with gastric ulcer who are helicobacter pylori positive.

Reference:

Gastric and Duodenal Ulcer Aetiology, Helicobacter Pylori
 Davidson's Principles and Practice of Medicine (Page No. 887 & 888)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

Q6. What is acromegaly? Write down five clinical features of this disease and how will you confirm its diagnosis?

1+1+1=3

Topic: Acromegaly (Endocrine Disease)

Key of Q.6:

Acromegaly is caused by growth hormone secretion from pituitary tumor. If growth hormone hyper secretion occurs before closure of epiphyses then gigantism will result. More commonly growth hormone excess occurs after the epiphyseal closure and acromegaly ensues. 1

Clinical Features Are: 1

1. Enlargement of hands and feet.
2. Enlargement of nose and lips.
3. Headache.
4. Hypertension.
5. Prognathism.
6. Enlargement of liver.
7. Increased sweating and thick skin.

Clinical Diagnosis is confirmed by measuring growth hormone levels during an oral glucose tolerance test. In normal subjects growth hormone is suppressed. In acromegaly it is not suppressed and in 50% cases there is a paradoxical rise. 1

Reference:

Acromegaly

Davidson's Principles and Practice of Medicine (page No. 801)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

Q7. Write down Anti-Tuberculous Therapy. Give side effects of any two drugs. 2+1=3

Topic: Chemotherapy, Tuberculosis, Respiratory Disease.

Key of Q.7:

Following are first line anti-tuberculosis drugs: 1

- Rifampicin.
- Isoniazid.
- Ethambutol.
- Pyrazinamide.

Treatment is given in two phases:

Initial Phase: 1/2

Is for two months in which all four drugs are given.

Continuation Phase: 1/2

Is for four months in a six month regime, in which rifampicin and isoniazid are continued and other drugs are stopped.

Side Effects: (Any Two) 1/2+1/2

Rifampicin → Hepatotoxic, Rashes, Orange discoloration of secretions.

Isoniazid → Hepatitis, Neuropathy.

Ethambutol → Retrobulbar neuritis.

Pyrazinamide → Hepatitis, Gout.

Reference:

Treatment of Tuberculosis.

Davidson's Principles and Practice of Medicine (page No. 701&702)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

- Q8. A patient with valvular heart disease has to undergo a dental procedure. Write down antibiotic regime for prophylaxis against endocarditis both if the procedure has to be carried out under local anaesthesia as well as general anaesthesia. Also write alternative treatment if patient is sensitive to first line drugs. 1+1+1=3**

Topic: Infective Endocarditis (Cardiovascular Disease)

Key of Q.8:

a) Antibiotic Regime For Dental Procedure Under Local Anaesthesia:

Amoxicillin 3 grams orally one hour before 1

Or

Clindamycin 600 mg orally one hour before (if patient is allergic to penicillin). 1/2

b) Antibiotic Regime for Dental Procedure Under General Anaesthesia:

Amoxicillin 1 gram intravenous at induction plus amoxicillin 5 gram orally six hours later. 1

Or

Vanomycin one gram intravenous infusion plus gentamycin 120 mg intravenous t induction (if patient allergic to penicillin). 1/2

Reference:

Antibiotic Prophylaxis against Endocarditis

Davidson's Principles and Practice of Medicine (Page No. 633, Box 18.125)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

- Q9. a) Enumerate five common causes of chronic renal failure. 1**
- b) Write three mechanisms of anaemia in chronic renal failure. 2**

Topic: Chronic Renal Failure (Kidney and Urinary Tract Diseases)

Key of Q.9:

- a) Five Common Causes of Chronic Renal Failure: 1**
1. Diabetes mellitus.
 2. Hypertension.
 3. Glomerular disease.
 4. Polycystic kidney disease.
 5. Renal artery stenosis.

Five (at least three).

- b) Mechanisms of Anaemia in Chronic Renal Failure: 2**
1. Deficiency of erythropoietin.
 2. Decreased erythropoietin due to toxic effect of uremia on bone marrow.
 3. Reduced red cell survival.
 4. Increased blood loss due to platelet dysfunction.
 5. Reduced dietary intake and absorption of iron and other haematinics due to anorexia and vomiting.

Reference:

Davidson's Principles and Practice of Medicine (Table 17.9 Common causes of Chronic Renal failure (Page No. 486)
 (Limiting Adverse Effects of Chronic Renal Failure page No. 488)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

Q10. What chemoprophylaxis you will give to a traveler who is going to visit a Malarial Endemic Area? 3

Topic: Malaria (Infectious Diseases)

Key of Q.10:

Duration:

Chemoprophylaxis is begun one week before entering malarious area and is continued for four weeks after leaving it. 1

Following Drugs can be Given Alone or in Combination: 2

- Mefloquine.
- Chloroquine.
- Proguanil.
- Doxycycline.
- Atovaquone.

This should accompany avoidance of mosquito bites (by using repellent creams, sprays, wearing full sleeves and trousers and sleeping indoors with closed windows and use of mats and coils at night).

Reference:

Chemoprophylaxis (Malaria) Davidson's Principles and Practice of Medicine (Page No. 347&348)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

- Q11. You are traveling in a bus. A passenger starts having fits.**
- a) What first aid you will give to this patient? 2**
- b) What immediate medical attention this patient needs? 1**

Topic: Epilepsy, Neurological Disease

Key of Q.11:

- a) First Aid: 2**
- Move the person away from danger.
 - Turn into semi-prone position.
 - Ensure airway is clear.
 - Do not insert anything in the mouth.
 - Person may remain drowsy and confused for half to one hour and should not be left alone until fully recovered.
 - If fits continue for more than five minutes or recur without the person regaining consciousness summon urgent medical attention.
- b) Immediate Medical Attention: 1**
- Ensure airway is patent.
 - Give oxygen.
 - Give diazepam 10 mg intravenous if fits are continuous or recur.
 - Take blood samples for drug levels.
 - Investigate cause.

Reference:

Immediate Care of Seizures (Box 26.21) Management of Epilepsy
Davidson's Principles and Practice of Medicine (Page No. 1171)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

Q12. Write down three causes of secondary hypertension with at least one sign of each disease. 3

Topic: Hypertension, Cardiovascular Disease.

Key of Q.12:

Causes of Secondary Hypertension:

- | | |
|-------------------------------------|-----|
| 1. Polycystic Kidney Disease. | 1/2 |
| Sign: Bilaterally Palpable Kidneys. | 1/2 |
| 2. Renal Artery Stenosis. | 1/2 |
| Sign: Renal Bruit. | 1/2 |
| 3. Coarctation of Aorta. | 1/2 |
| Sign: Radiofemoral Delay. | 1/2 |

Reference:

Examination Hypertension.

Davidson's Principles and Practice of Medicine (Page No. 610)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

Q13.

a) How will you screen and diagnose diabetic nephropathy?

1/2+1/2

b) Write two steps in its management.

1+1

Topic: Long Term Complications Diabetes Mellitus

Key of Q.13:

Microalbuminuria is an important indicator of risk of developing diabetic nephropathy. 1/2

How to screen: 1/2

Patients with Type 1 Diabetes:

Annually from five year after diagnosis.

Patients with Type 2 Diabetes:

Annually from the time of diagnosis.

Steps in Management of Diabetic Nephropathy:

- Improved control of blood glucose. 1
- Aggressive reduction of blood pressure by angiotensin converting enzyme inhibitors. Aggressive reduction of other risk factors for cardiovascular disease (with statins and aspirin). 1

Reference:

Diagnosis and Screening Management of Diabetic Nephropathy

Davidson's Principles and Practice of Medicine (Page No. 841, 842)

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

- Q14. a) What is bacillary dysentery? 1**
b) How will you manage and prevent it? 1+1=2

Topic: Bacillary Dysentery, Infectious Diseases.

Key of Q.14:

- a)** Bacillary dysentery is infection of intestine with gram negative
Rods called Shigellae. 1/2
It causes bloody diarrhea, colicky abdominal pain. 1/2
Examination shows fever, dehydration and abdominal tenderness. 1/2
- b) Management:**
- Rehydration. 1/2
 - Antibiotic: Ciprofloxacin. 1/2
- Prevention: of fecal contamination of food and water. 1/2

Reference:

Davidson's Principles and Practice of Medicine.

BDS THIRD PROFESSIONAL EXAMINATION 2007
General Medicine (SEQs)
MODEL PAPER

Q15. Write down three investigations to confirm the diagnosis and find cause of iron deficiency. 3

Topic: Iron Deficiency Anaemia, Blood Disorders.

Key of Q.15:

Confirmation of Iron Deficiency:

- Plasma ferritin level is reduced. 1/2
- Plasma iron is reduced. 1/2
- Total iron binding capacity is increased. 1/2

Investigation of Cause:

- Stool examination for ova of hook worm. 1/2
- Colonoscopy and gastroscopy. 1/2
- Barium studies. 1/2

Reference:

Investigations Iron Deficiency Anaemia
Davidson's Principles and Practice of Medicine (Page No. 1026)