



MBBS THIRD PROFESSIONAL
MODEL PAPER FOR ANNUAL 2009
Special Pathology
(Short Essay Questions)

Max. Marks 70

Time Allowed 2 hours

1. A 65 year-old-dictator of a banana republic, who was an alcoholic and fond of red meat, suffered a short episode of unexplained chest pain after he was forced to resign and died before he could reach the hospital. At autopsy the pathologist found thickened walls of many arteries including the coronary arteries with luminal narrowing. The lesions consisted of raised plaques having a soft center with a fibrous cap:
 - a) What is this process known as and what other arteries it most commonly involves? 3
 - b) What are the principal components of these plaques? 2

2. Peripheral blood film of a 23-year old female with history of jaundice and severe anemia shows numerous sickle-shaped red cells:
 - a) What type of hemoglobin would the Hb electrophoresis show and how is it formed? 2
 - b) Outline the mechanism of sickling of red cells in this patient. 3

3. A 22-year old medical student from Islamabad suffers from seasonal attacks of episodes of respiratory difficulty with cough productive of copious watery secretions. The episodes last for a few hours at a time. A skin test for paper mulberry pollen is positive:
 - a) What is the diagnosis? Give the basic pathologic mechanism underlying this condition? 2
 - b) List the 3 major groups of chemical mediators which are implicated in this response. 3

4. An endoscopic gastric biopsy from a 65-year old man presenting with epigastric discomfort reveals a moderately differentiated glandular tumor not invading beyond submucosa. Adjacent mucosa shows ulceration and presence of H pylori. Subsequent gastrectomy shows a 1cm flat lesion with perigastric lymph node metastasis:
 - a) What morphologic feature has the greatest impact on clinical outcome? 1
 - b) List important environmental, host and genetic risk factors for gastric carcinoma. 4

5. A colectomy specimen from a 35-year-old female with history of intermittent attacks of mild diarrhea with fever and abdominal pain, shows "skip lesions" in the form of sharply demarcated areas of ulceration and fissuring, also involving the distal ileum. What features would you expect to find on microscopic examination of the diseased segments? 5

6.
 - a) What are the three main types of liver disease associated with chronic consumption of alcohol? 2
 - b) Give the salient histological features of each. 3

7. A 62-year-old female from a remote town in South Punjab presents with generalized body edema. Labs show hypoalbuminemia and macroalbuminuria. Fasting blood sugar levels are more than 200mg/dl on 2 consecutive days. The patient gives history of "fainting episodes" for which she had been consulting the local 'pir'. What spectrum of changes would you expect to find on a renal biopsy from this patient? 5

8. A 54-year-old male develops frequency of micturation, urgency, overflow incontinence and nocturia. Digital rectal examination reveals nodular prostatic enlargement. Serum PSA is <4ng/dL. Sextant prostate biopsies are negative for malignancy:
- a) What is the diagnosis? 1
 - b) If a prostatectomy were done in this patient, what gross and morphologic features would you expect to find? 2,2
9. A 45-year-old female with multiple sexual partners has a cervical PAP smear done as part of routine screening for cervical cancer. The smear is reported as CIN II with advice for further workup:
- a) Screening for DNA of which virus is most pertinent to the current scenario? 1
 - b) What role does the said virus play in pathogenesis of cervical cancer? 4
10. A mastectomy specimen from a 42-year old female shows a 2 cm tumor which is a well differentiated ductal carcinoma of no special type with a minor in situ component. Two of 14 axillary lymph nodes are positive for metastatic tumor. The tumor is Estrogen receptor and progesterone receptor negative and Her2-neu positive. There is no distant metastasis.
- a) Which of these tumor characteristics has the greatest effect on clinical outcome in this patient? 1
 - b) Identify all prognostic and predictive factors listed here and give relative importance of each. 4
11. A biopsy from a soft tissue mass in the iliac fossa revealed metastatic carcinoma most consistent with a diagnosis of metastatic follicular carcinoma of thyroid gland. A search into previous record of the patient showed history of nodulectomy for a 2cm-cold thyroid nodule 8-years back. The lesion was reported as "follicular adenoma":
- a) If you were to re-examine the slides from the thyroid nodule which part of the lesion would you examine most carefully and why? 3
 - b) What is the common mode of metastases for follicular thyroid cancer and what are the commonest sites for metastases? 2
12. A 30 year-old male develops excruciating pain in the first metatarsophalangeal joint following a weekend of binge drinking. The pain was associated with localized hyperemia, warmth and tenderness:
- a) What is the likeliest diagnosis and what laboratory tests will you order to confirm the diagnosis? 2
 - b) Describe the morphology of tophus. 3
13. a) List the three types of glial tumors. 3
- b) List three of the tumors that are most commonly metastatic to the brain. 2
14. List two laboratory tests each for the evaluation of hepatocyte integrity, biliary excretory function and hepatocyte function. 5