

**DEPARTMENT OF PATHOLOGY, KING EDWARD MEDICAL UNIVERSITY, LAHORE**

**MODEL PAPER, SPECIAL PATHOLOGY**

**3<sup>RD</sup> PROFESSIONAL MBBS EXAMINATION**

**PART - I (Multiple Choice Questions)**

Total Marks: 30,

Time Allowed: 40 Minutes

**Choose the Best option**

- 1** Which of the following is the most common source of septic thromboemboli in the cerebral arteries?
  - a. Leg veins
  - b. Pulmonary veins
  - c. Heart
  - d. Aorta
  - e. Carotid arteries
  
- 2** A 50-year-old man who is showing signs of acromegaly is found to have an elevated concentration of growth hormone and another hormone in blood that was apparently derived from the liver. Which other hormone is most likely increased in this patient's blood?
  - a. Glucagon
  - b. Somatostatin
  - c. Insulin growth factor I
  - d. Cholecystokinin
  - e. Secretin
  
- 3** A 50-year-old woman sees her physician because she has noticed a bloody discharge from the left nipple. Upon physical examination, there are no palpable masses in the breast. Which of the following is the most likely cause of this discharge?
  - a. Solitary cyst
  - b. Fibrocystic change
  - c. Acute mastitis
  - d. Intraductal papilloma
  - e. Carcinoma
  
- 4** Comedocarcinoma of the breast is a type of which of the following carcinomas?
  - a. Ductal carcinoma in situ
  - b. Medullary carcinoma
  - c. Invasive ductal carcinoma
  - d. Invasive lobular carcinoma
  - e. Tubular carcinoma
  
- 5** A 25-year-old woman had a workup for infertility. During the laparoscopic examination, the gynecologist found foci of endometriosis. Such foci are most often seen on which of the following sites?
  - a. Ovary
  - b. Uterine ligaments
  - c. Rectovaginal septum
  - d. Pelvic peritoneum
  - e. Appendix

**6** which of the following infectious agents is the most common cause of urinary tract infection?

- a. *Escherichia coli*
- b. *Proteus vulgaris*
- c. *Klebsiella* sp
- d. *Streptococcus faecalis*
- e. *Staphylococcus aureus*

**7** Cardiac disease is found in 20% to 40% of patients with longstanding crippling rheumatoid arthritis. Which of the following is the most common cardiac disease encountered in patients who have rheumatoid arthritis?

- a. Valvular endocarditis
- b. Mural endocarditis
- c. Valvular calcifications
- d. Myocarditis
- e. Pericarditis

**8** The most common location of atrial septal defects is in the area of the

- a. fossa ovalis
- b. sinus venosus
- c. septum primum
- d. coronary sinus
- e. supravulvular endocardium

**9** Which type of vasculitis is typically associated with bronchial asthma?

- a. Temporal (giant cell) arteritis
- b. Takayasu arteritis
- c. Kawasaki disease
- d. Churg-Strauss syndrome
- e. Henoch-Schönlein purpura

**10** Aneurysms caused by weakening or destruction of the arterial wall by bacteria are called

- a. berry aneurysms
- b. fusiform aneurysms
- c. saccular aneurysms
- d. mycotic aneurysms
- e. cirroid aneurysms

**11** Sudden death within the first hours after the onset of a myocardial infarction is most often caused by

- a. ventricular fibrillation
- b. rupture of the ventricle
- c. rupture of the papillary muscles
- d. rupture of the interventricular septum
- e. pulmonary embolism

**12** A 20-year-old man is being treated for a soft tissue tumor of the lower extremity. The tumor is composed of malignant spindle-shaped cells and epithelial cells that form gland-like structures. Which of the following is the most likely diagnosis?

- a. Leiomyosarcoma
- b. Malignant fibrous histiocytoma
- c. Primitive neuroectodermal tumor
- d. Synovial sarcoma
- e. Rhabdomyosarcoma

**13** Basal cell carcinoma of the skin often contains mutations of the *p53* gene and the gene called *PTCH* (mutated in congenital nevoid basal cell carcinoma syndrome). These mutations are most likely the result of action of which of the following?

- a. Epidermal growth factor
- b. G-protein signal transduction system
- c. Chemical carcinogens from the environment
- d. Ultraviolet light
- e. Cosmic radiation

**14** Thyroid ophthalmopathy is typically found in patients who have which of the following disorders?

- a. Graves disease
- b. Multinodular goiter
- c. Toxic (hyperfunctioning) adenoma of the thyroid
- d. Hashimoto thyroiditis
- e. Riedel thyroiditis

**15** Vascular endothelial growth factor (VEGF) is implicated in the pathogenesis of which complication of diabetes?

- a. Cerebral infarcts
- b. Intraretinal microangiopathy
- c. Diabetic glomerulosclerosis
- d. Gangrene of the foot
- e. Peripheral neuropathy

**16** A 50-year-old woman sees her physician because she has noticed a bloody discharge from the left nipple. Upon physical examination, there are no palpable masses in the breast. Which of the following is the most likely cause of this discharge?

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- b. Fibrocystic change
- c. Acute mastitis
- d. Intraductal papilloma
- e. Carcinoma

**17** *RCA1* and *BRCA2* genes that are mutated in 25% of all women who have familial breast cancer encode proteins. Which of the following functions do these proteins serve?

- a. Cell surface receptors for growth factors
- b. Growth factors
- c. Cytoplasmic signaling molecules
- d. DNA repair enzymes
- e. Nuclear hormone receptors

**18** A 55-year-old woman who has diabetes mellitus complains of genital itching. Examination shows whitish plaques on the mucosa of the vulva and vagina. Which of the following infectious agents most likely caused these changes?

- a. Human papillomavirus
- b. Herpes simplex virus type 2
- c. *Trichomonas vaginalis*
- d. *Gardnerella vaginalis*
- e. *Candida albicans*

**19** Physical examination of a 5-year-old girl shows a grape-like polypoid mass protruding from the vagina. Histologic examination reveals that the mass has a myxoid stroma that contains small oval-shaped cells. Some of these cells have pink cytoplasm and resemble tennis rackets. These cells reacted positively upon immunohistochemical staining with the antibodies to desmin. Which of the following is the most likely diagnosis?

- a. Squamous cell carcinoma
- b. Clear cell adenocarcinoma of the cervix
- c. Leiomyosarcoma
- d. Rhabdomyosarcoma
- e. Malignant melanoma

**20** A 25-year-old woman had a workup for infertility. During the laparoscopic examination, the gynecologist found foci of endometriosis. Such foci are most often seen on which of the following sites?

- a. Ovary
- b. Uterine ligaments
- c. Rectovaginal septum
- d. Pelvic peritoneum
- e. Appendix

**21** elevated 17-ketosteroid excretion, masculinization, and hirsutism are found in a woman who has a tumor of the ovary. The tumor is composed of polygonal cells with abundant eosinophilic cytoplasm and occasional Reinke crystals. Which of the following is the most likely classification of this tumor?

- a. Thecoma
- b. Granulosa cell tumor
- c. Hilar tumor of the ovary
- d. Sertoli-Leydig cell tumor
- e. Brenner tumor

**22** Nephrotic syndrome related to minimal change disease, combined with acute renal failure related to acute interstitial nephritis, is a well-documented adverse reaction to which of the following drugs?

- a. Methicillin
- b. Ampicillin
- c. Rifampin
- d. Ibuprofen
- e. Hydrochlorothiazide

**23** A 60-year-old man is being treated for cancer with several cytotoxic drugs, including cyclophosphamide. He developed hematuria and later died. At autopsy, cystitis is noted. Which specific form of cystitis did this patient most likely develop?

- a. Interstitial cystitis
- b. Follicular cystitis
- c. Emphysematous cystitis
- d. Hemorrhagic cystitis
- e. Malakoplakia

**24** A papillary urinary bladder tumor composed of multilayered hyperchromatic transitional epithelium shows significant nuclear atypia. This type of tumor is best classified as which of the following?

- a. Urothelial papilloma
- b. Urothelial neoplasm of low malignant potential
- c. Papillary urothelial carcinoma, low grade
- d. Papillary urothelial carcinoma, high grade
- e. Anaplastic carcinoma

**25** Penile carcinomas tend to metastasize first to which of the following nodes?

- a. Inguinal lymph nodes
- b. Obturator lymph nodes
- c. Internal iliac lymph nodes
- d. External iliac lymph nodes
- e. Paraortic abdominal lymph nodes

**Q.26** Investigations of an anemic male patient showed MCV: 70 fL, MCH: 21 pg, Serum iron: 0.4 mg/L (n: 0.7 – 1.8 mg/L), TIBC 6 mg/L (n: 2.5 – 4mg/L), Serum ferritin: 15 ug/L (n: 30 – 300ug/L). The most likely diagnosis is:

- a) Anaemia of chronic disorder
- b) Beta thalasemia
- c) Iron deficiency anaemia
- d) Sideroblastic anaemia
- e) Lead poisoning

**Q27.** A six year old boy presented with H/O passing dark coloured urine following intake of Septran. Laboratory investigations revealed: Hb: 8.5gm/dl, MCV 98 fL, Reticulocyte count: 20%, Which one of the following investigations is most likely to confirm your diagnosis:

- a) Coomb's test
- b) G6PD Assay
- c) Hb electrophoresis
- d) Serum B12 Assay
- e) Serum Bilirubin

**Q28.** Which one of the following chromosomal changes is most frequently associated with acute promyelocytic leukemia:

- a) t(8;14)
- b) t(8;21)
- c) t(9;22)
- d) t(14;18)
- e) t(15;17)

**Q29.** A two year old boy presented with excessive bleeding after trauma. His laboratory tests' result showed: BT: 6 min, PT: 14 sec(Control 15 sec), APTT: 86 sec (Control 32 sec). Which of the following investigations is most likely to confirm your diagnosis.

- a) Factor VII assay
- b) Factor VIII assay
- c) Factor IX assay
- d) Factor X assay
- e) Factor XI assay

**Q30.** A female presented with excessive bleeding after delivery. Results of her laboratory tests were as follows. Platelets count 70000/uL, APTT: 60 sec (Control 32 sec), PT 30 sec ( Control16 sec). The most likely diagnosis is:

- a) Disseminated intravascular coagulation
- b) Factor X deficiency
- c) Factor V deficiency
- d) Immune thrombocytopenic purpura
- e) Von Willibrands disease

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**PART - II**

Total Marks: 90, Qualifying Marks: 50% Time Allowed: Two Hours & 20 Minutes

**Problem Solving Question**

**A:** A sixty year old patient visits his local family practitioner because he has become worried about vague abdominal pain and backache that he has been experiencing for about six months. He smokes 20 cigarettes a day, and has done so since he started work at the age of 14, but is otherwise well. On examination, his doctor notes a large pulsatile abdominal mass. An abdominal aortic aneurysm is diagnosed and he is referred to hospital for consideration of surgical intervention.

Questions

1 What is the likely cause of this patient's aneurysm? 2

2 Describe the histological changes occurring in the wall of the aorta in this condition? 6

3 What complications may occur? 3

4 What are the other main types of aneurysm. 4

**B:** A 62-year-old lady has a long history of urinary tract infections, and has been referred by her family doctor for a urological opinion because of a gradually worsening ache in her right loin over a period of six months. On plain abdominal X-ray, there is an obvious area of opacity which appears to be filling a distended pelvicalyceal system. An intravenous urogram shows normal studies in her left kidney, but virtually no passage of contrast through her right kidney.

Questions

1 What name is given to the structure filling her right pelvi-calyceal system? 1

2 Name the organisms which are the most common cause of urinary tract infections 3

3 Describe the pathogenesis of pyelonephritis ? 8

4 What are the different types of renal calculi? 3

**LONG ESSAY QUESTION**

**A)** Name the Hepatotropic viruses which cause hepatitis. 2 ½

**B)** Describe the pathogenesis of Hepatitis B. 7

**C)** Discuss briefly the laboratory diagnosis of Hepatitis C. 5 ½

**D)** Describe the pathogenesis and laboratory diagnosis of beta Thallasemia Major. 15

**SHORT ESSAY QUESTIONS**

1) Give the pathogenesis of thrombotic thrombocytopenic purpura. Enlist the causes of Folic acid deficiency anemia. 6, 4

2) Describe the pathogenesis of Type II Diabetes Mellitus. Write a short note on Glucose Tolerance Test. 6, 4

3) Classify tumors of the breast. Discuss various prognostic factors of Carcinoma of breast. 4, 6

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## Short Essay Questions

- Q.1 Describe the Laboratory Diagnosis of a patient suspected to be suffering from lobar pneumonia 10
- Q.2. Describe in brief the pathogenesis of Typhoid Fever. 10
- Q.3 Describe the morphological features and cultural characteristics of Mycobacterium TB. 10

## Long Essay Question

- Q.4.A Draw and label the life cycle of ancylostoma duodenale. Give its Lab. Diagnosis. Clarify your points with the help of diagram /diagrams. 15
- Q.4. B Name the chemical mediators involved in different stages of acute inflammatory response. Describe the healing of a surgically incised clean wound. 15

## Problem Based Learning

- Q5.A A 70 years old man is brought to Emergency with sudden onset of left sided chest pain increasing on inspiration. The patient is dyspneic and ferbrile. A friction rub is audible on lateral side of left chest. The left leg is markedly edematous with positive homan's sign. X-Rays reveals a left sided pleural effusion.
- i). What is the most likely diagnosis? 2
- ii). Describe the pathogenesis of thrombosis. 8
- iii). Write short note on hypovolemic shock. 5
- Q5.B A five year old child presented in outdoor with visual loss of his left eye. There was a positive history of similar visual loss in one of his grand parents.
- i). Name at least two neoplasm of the eye. 2
- ii). Enumerate the characteristics of malignancy. 5
- iii). Describe the role of oncogenic viruses and radiations in the pathogenesis of neoplasm. 8

## Multiple Choice Questions

- Q.1 In acute inflammation, two main functions of leucocytes are: Ans
- A) Hemostasis and coagulation
  - B). Apoptosis and necrosis
  - C). Carrying of oxygen and food
  - D). Formation of epitheloid Cells.
  - E). Phagocytosis and chemotaxis
- Q.2 Peritoneal, pleural and pericardial effusion are example of :
- A). Fibrinous inflammation
  - B). Suppurative Inflammation
  - C). Serous inflammation
  - D). Mucinous inflammation
  - E). Purulent Inflammation
- Q.3 A CT scan of a 40 years old women with parathyroid adenoma and hyperparathyroidism reveals extensive calcium deposit in the lung and kidney parenchyma. These radiologic findings are best explained by which of the following mechanisms of disease.
- A). Arteriosclerosis
  - B). Dystrophic calcification
  - C). Granulomatous inflammation
  - D). Metastatic calcification
  - E). Tumour embolism
- Q.4 Karyorrhexis is
- A). The fading of chromatin basophilia
  - B). Condensation of DNA into shrunken mass
  - C). Fragmentation of pyknotic or partially pyknotic nucleus
  - D). Increase in chromatin basophilia
  - E). Cell membrane damage
- Q.5 At autopsy, the heart of 60 years old man weighs only 245 g and has small ventricles. The myocardium is firm with dark chocolate brown color. The coronary arteries show slight atherosclerosis. Which of the following substances is most likely to be found in myocardial fibres in this heart in excess.
- A). Melanin
  - B). Hemosidrin
  - C). Glycogen
  - D). Lipofuscin
  - E). Bilirubin
- Q.6 Which of the following changes best describes pathophysiology involved in the causation of pulmonary oedema in patients with congestive heart failure.
- A). Decreased plasma oncotic pressure.
  - B). Widespread endothelial damage.
  - C). Increased hydrostatic pressure
  - D). Increased vascular permeability
  - E). Acute lymphatic obstruction.

- Q.7 The infarct of following organ is invariably hemorrhagic.
- A). Kidney
  - B). Lung
  - C). Spleen
  - D). Heart
- Q.8 Teratogens are defined as agents which induce.
- A). Mitosis
  - B). Carcinogenesis
  - C). Birth Defects
  - D). Fallot's Tetralogy
- Q.9 Drugs reaction are mediated by which type of hypersensitivity
- A). Type - I
  - B). Type -II
  - C). Type - III
  - D). Type - IV
- Q.10 The following form of ionizing radiation exposure is associated with highest risk of cancer.
- A).  $\alpha$ -Rays
  - B).  $\beta$ -Rays
  - C).  $\gamma$ -Rays
  - D). X-Rays.
- Q.11 Grading of tumour depends upon the following except:
- A). Degree of anaplasia
  - B). Metastatic spread
  - C). Rate of growth of cells.
  - D). Degree of differentiation
- Q.12 A 60 years old man with history of alcoholism has noted a 6 kg weight loss over the past 5 months. Physical examination shows no masses or palpable lymphadenopathy. Laboratory studies include an elevated serum  $\alpha$ -fetoprotein level. Stool guaiac test result is negative. Which of the following is most likely diagnosis.
- A). Prostatic adenocarcinoma
  - B). Pulmonary squamous cell carcinoma
  - C). Multiple myeloma
  - D). Pancreatic adenocarcinoma
  - E). Hepatocellular carcinoma.
- Q. 13 Gas gangrene is a form of necrosis associated with
- A) Mycotic infections
  - B) Emphysema
  - C) Tuberculosis
  - D) Infections with Clostridium
  - E). Muscle trauma

- Q. 14 Pain Associated with acute inflammation is thought to be caused by:
- A) Pressure effects of exudates fluid
  - B) Histamine
  - C) Serotonin
  - D) Kinins
  - E) All of the above
- Q. 15 Hypostatic pneumonia is:
- A) Usually caused by a virus
  - B) Secondary infection of chronic pulmonary edema
  - C) Associated with low blood pressure
  - D) Associated with low electrical charges
  - E) Infections of the legs with pulmonary complications
- Q.16 .Each of the following statements concerning peptidoglycan is correct EXCEPT:
- A. It has a backbone composed of alternating units of muramic acid and acetylglucosamine
  - B. Cross-links between the tetrapeptides involve D-alanine
  - C. It is thinner in gram-positive than in gram-negative cells
  - D. It can be degraded by lysozyme
- Q.17 Each of the following is a typical property of obligate anaerobes EXCEPT:
- A. They generate energy by using the cytochrome system
  - B. They grow best in the absence of air
  - C. They lack superoxide dismutase
  - D. They lack catalase
- Q.18. During an outbreak of gastrointestinal disease caused by an *Escherichia coli* strain sensitive to ampicillin, tetracycline, and chloramphenicol, a stool sample from one patient yields *E. coli* with the same serotype resistant to the three antibiotics. What is the mechanism by which the genes for resistance to these antibiotics has been transferred.
- A. Transduction
  - B. Conjugation
  - C. DNA transformation
  - D. Transposition
- Q.19. Enveloped RNA virus that is the most common cause of non-A, non-B hepatitis
- A. Hepatitis A virus
  - B. Hepatitis B virus
  - C. Hepatitis C virus
  - D. Hepatitis D virus

- Q.20. The ability of a virus to produce disease can result from a variety of mechanisms. Which one of the following mechanisms is LEAST likely?
- A. Cytopathic effect in infected cells
  - B. Malignant transformation of infected cells
  - C. Immune response to virus-induced antigens on the surface of infected cells
  - D. Production of an exotoxin that activates adenylate cyclase
- Q.21. Your patient is a woman with a vaginal discharge. You suspect, on clinical grounds, that it may be due to *Candida albicans*. Which one of the following statements is LEAST accurate or appropriate?
- A. A Gram stain of the discharge should reveal budding yeasts
  - B. Culture of the discharge on Sabouraud's agar should produce a white mycelium with aerial conidia
  - C. To identify the organism, you should determine whether germ tubes are produced
  - D. You should ask her whether she is taking antibiotics
- Q.22. Laboratory diagnosis of a patient with a suspected liver abscess due to *Entamoeba histolytica* should include
- A. Stool examination and indirect hemagglutination test
  - B. Stool examination and blood smear
  - C. Indirect hemagglutination test and skin test
  - D. Xenodiagnosis and string test
- Q.23. Which one of the following agents is used to prevent malaria?
- A. Mebendazole
  - B. Chloroquine
  - C. Inactivated vaccine
  - D. Praziquantel
- Q.24. Each of the following statements concerning sleeping sickness is correct EXCEPT:
- A. Sleeping sickness is caused by a trypanosome
  - B. Sleeping sickness is transmitted by tsetse flies
  - C. Sleeping sickness can be diagnosed by finding eggs in the stool
  - D. Sleeping sickness occurs primarily in tropical Africa
- Q.25. Each of the following statements concerning *Pneumocystis carinii* is correct EXCEPT:
- A. *P. carinii* infections primarily involve the respiratory tract
  - B. *P. carinii* can be diagnosed by seeing cysts in tissue
  - C. *P. carinii* infections are symptomatic primarily in immunocompromised patients
  - D. *P. carinii* symptomatic infections can be prevented by administering penicillin orally

- Q.26 Each of the following agents is a recognized cause of diarrhea EXCEPT:
- A. *Clostridium perfringens*
  - B. *Enterococcus faecalis*
  - C. *Escherichia coli*
  - D. *Vibrio cholerae*
- Q.27 Which one of the following zoonotic illnesses has NO arthropod vector?
- A. Plague
  - B. Lyme disease
  - C. Brucellosis
  - D. Epidemic typhus
28. Which one of the following illnesses is NOT a zoonosis?
- A. Typhoid fever
  - B. Q fever
  - C. Tularemia
  - D. Rocky Mountain spotted fever
- Q.29 .Each of the following statements concerning neisseriae is correct EXCEPT:
- A. They are gram-negative diplococci
  - B. They produce IgA protease as a virulence factor
  - C. They are oxidase-positive
  - D. They grow best under anaerobic conditions
- Q.30. Is an acid-fast rod
- A. *Mycobacterium avium-intracellulare*
  - B. *Treponema pallidum*
  - C. *Rickettsia prowazekii*
  - D. *Mycoplasma pneumoniae*
- Q 31 A 60-year-old man who has a 90 pack year history of cigarette smoking has had a chronic cough for the past 10 years. He has begun to lose weight (3 kg) during the past year. No abnormal findings are noted on physical examination. He has a chest radiograph that reveals a right hilar mass. A sputum cytology shows atypical, hyperchromatic squamous cells. What is the most common initial pathway for metastases from this lesion?
- A. Bloodstream
  - B. Pleural cavity
  - C. Contiguous spread to chest wall
  - D. Lymphatics

A 55-year-old man dies after a year-long illness. At autopsy her liver contains multiple tumor masses from 2 to 5 cm in size that

- Q 32 are firm and tan and that grossly exhibit umbilication with central necrosis. The surrounding hepatic parenchyma appears normal. Which of the following characteristics of neoplasia is best illustrated by these findings?
- A. Multicentric origin
  - B. High tumor grade
  - C. Primary neoplasm in the stomach
  - D. Exposure to a carcinogen
  - E. Advanced stage
- Q 33 A 66-year-old woman has noted increasing abdominal girth for 3 months. On examination there is a fluid wave. Paracentesis yields cloudy fluid that cytologically contains clusters of malignant cells. An abdominal CT scan shows bilateral cystic and solid pelvic masses and multiple peritoneal nodules. She is treated with chemotherapy with an initial response, but a year later there is still residual tumor. Which of the following parameters of the neoplastic cells best predicts her diminished chemotherapy response?
- A. Doubling time
  - B. Extent of apoptosis
  - C. Gene amplification
  - D. Growth fraction
  - E. Telomerase expression
- Q 34 A 15-year-old girl has had episodes of sneezing with watery eyes and runny nose for the past 2 weeks. On physical examination she has red, swollen nasal mucosal surfaces. She has had similar episodes each Spring and Summer when the amount of ragweed pollen in the air is high. Her symptoms are most likely to be mediated by the release of which of the following chemical mediators?
- A. Complement C3b
  - B. Platelet activating factor (PAF)
  - C. Tumor necrosis factor (TNF)
  - D. Histamine
  - E. Immunoglobulin G

- Q 35 A 20-year-old woman sustains an injury to her right calf in a mountain biking accident near Moab. On physical examination she has a 5 cm long laceration on the right lateral aspect of her lower leg. This wound is closed with sutures. Wound healing proceeds over the next week. Which of the following factors will be most likely to aid and not inhibit wound healing in this patient?
- A. Secondary wound infection
  - B. Poor tissue perfusion
  - C. Presence of sutures
  - D. Corticosteroid therapy
  - E. Hypoalbuminemia
- Q 36 A 48-year-old woman has a malignant lymphoma involving lymph nodes in the para-aortic region. She is treated with a chemotherapeutic agent which results in the loss of individual neoplastic cells through fragmentation of individual cell nuclei and cytoplasm. Over the next 2 months, the lymphoma decreases in size, as documented on abdominal CT scans. By which of the following mechanisms has her neoplasm primarily responded to therapy?
- A. Coagulative necrosis
  - B. Mitochondrial poisoning
  - C. Phagocytosis
  - D. Acute inflammation
  - E. Apoptosis
- Q 37 A 43-year-old man has complained of mild burning substernal pain following meals for the past 3 years. Upper GI endoscopy is performed and biopsies are taken of an erythematous area of the lower esophageal mucosa 3 cm above the gastroesophageal junction. There is no mass lesion, no ulceration, and no hemorrhage noted. The biopsies show the presence of columnar epithelium with goblet cells. Which of the following mucosal alterations is most likely represented by these findings?
- A. Dysplasia
  - B. Hyperplasia
  - C. Carcinoma
  - D. Ischemia
  - E. Metaplasia

Note: In Final Examination there will be 30 M.C.Q s of one Best Type having Four-Five options. Also there will be 3 Short essay questions One Long essay question having Two Parts a and b and one Problem based learning question may or may not having two parts a and b.

Note: Books advised

- |                 |                |
|-----------------|----------------|
| Robbins (small) | - Pathology    |
| Levinson        | - Microbiology |
| MRSA            | - Microbiology |