[illegible]
[illegible] Medical College
Grand Test [illegible] 07 January 2020
MBBS 3rd Year [illegible]
(Cell Injury, Healing and Repair, Inflammation)

Time Allowed: 25 min | Total Marks: 25

Name: ____________ Roll No: ____________ Date: ____________

Q-1 With regard to mechanisms of cellular adaptation, which of the following statements is TRUE?

A- Hyperplasia refers to an increase in cell size.
B- The myocardium adapts to increased workload by hypertrophy and hyperplasia
C- Metaplasia is irreversible
D Barrett's metaplasia is squamous to columnar epithelium in the distal oesophagus
E Barrett's metaplasia is Squamous to columnar epithelium with goblet cells in distal esophagus.

Q-2 A 43-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 decre[illegible] in size, as documented on abdominal CT scans. By which of the following mechanisms has [illegible] neoplasm primarily responded to therapy?

A Coagulative necrosis
B Mitochondrial poisoning
C Phagocytosis
D Acute inflammation
E Apoptosis

Q-3 A 53-year-old man has experienced severe chest pain for the past 20 min. A coronary angiogram is performed emergently and reveals >90% occlusion of the anterior interventricular (left anterior descending) artery. The chest pain stops after ten minutes. In this setting, reversible injury to myocardial fibers will have occurred when which of the following cellular changes occurs?

A water content decreases
B Cytoplasmic sodium decreases
C Nuclei undergo karyorrhexis
D unaffected intracellular PH
E Blebs form on cell membranes

Q-4 A 19-year-old woman gives birth to her first child. She begins breast feeding the infant. She continues breast feeding for almost a year with no difficulties and no complications. Which of the following cellular processes that began in the breast during pregnancy allowed her to nurse the infant for this period of time?

A Stromal hypertrophy
B Epithelial dysplasia
C Steatocyte atrophy
D Ductal epithelial metaplasia
E Lobular hyperplasia

Q-5 A 20-year-old woman has blood pressure measurements in the range of 150/90 to 180/110 mm Hg, but does not regularly take medications. A chest x-ray shows an enlarged heart. The size of her heart is most likely to be the result of which of the following processes involving the myocardial fibers?

A Hypertrophy
B Fatty infiltration
C Hyperplasia
D Fatty degeneration
E Edema

Q-6 A study is performed to identify predisposing risks for tissue cellular changes. In some persons epithelial metaplasia occurs. In which of the following situations is the process of epithelial metaplasia most likely to take place?

A Tanning of the skin following sunlight exposure
B Lactation following pregnancy
C Vitamin A deficiency
D Acute myocardial infarction
E Urinary obstruction from an enlarged prostate

Q-7 A study is performed involving the microscopic analysis of tissues obtained from surgical procedures. Some of these tissues have the microscopic appearance of an increased cell size of multiple cells within the tissue, due to an increase in the amount of cell cytoplasm, with nuclei remaining uniform in size. Which of the following conditions is most likely to have resulted in this finding?

A Uterine myometrium in pregnancy
B Female breast at puberty
C Liver following partial resection
D Ovary following menopause
E Cervix with chronic inflammation

Q-8 A 71-year-old man has difficulty with urination. His urinary retention leads to numerous trips to the restroom per day. On digital rectal examination is prostate is diffusely enlarged. Which of the following represents a pathologic change leading to this men's problem?

A Dysplasia
B Hypertrophy

Hypoplasia Hypoplasia.
Metaplasia
Neoplasia

Q-9 A 31-year-old primigravida has a difficult delivery of a term infant, with loss of 1500 cc of blood. She has hypotension for 6 hours. Over the next month, her ACTH level decreases. Within the next 3 months, her adrenal glands become decreased in size. This alteration of the adrenals is primarily due to which of the following cellular processes?

A Metaplasia
B Gene mutation
C Apoptosis
D Autophagocytosis
E Coagulative necrosis

Q-10 A 50 years old diabetic, alcoholic develops reversible hepatic injury. The hepatocytes are distended with yellow colored substance creating vacuoles in cytoplasm. What kind of substance actually has accumulated

A Glycogen
B water
C Fat Hatel
D Mucin
E Melanin

Q- 11 A 17-year-old man develops marked right lower quadrant abdominal pain over the past day. Laparoscopic surgery is performed, and the appendix was acute inflamed and a microscopic section shows infiltration with numerous neutrophils. The pain experienced by this patient is of which of the following two chemical mediators?

Bradykinin

A. Complement C3b and IgG
B. Interleukin-1 and tumor necrosis factor
C. Histamine and serotonin
D. Prostaglandin and bradykinin
E. Leukotriene and HPETE

Q-12 A 48-year-old woman has had a cough with fever for 3 days. A sputum culture grows Streptococcus pneumoniae. The clearance of these organisms from the lung will be accomplished through generation of which of the following substances by the major inflammatory cell type responding to this infection?

A. Platelet activating factor
B. Prostaglandin E2

Q.No.01 سے 17

C. Kallikrein
D. Leukotriene B4
E. Hydrogen peroxide

Q-13 A 12 years old boy pharyngeal infections and experience fever and chills. On physical examination, the most common findings include swelling, erythema, and pharyngeal purulent exudate. Which of the following types of inflammation did these patients most likely have?

A. Granulomatous
B. Pyogenic
C. Gangrenous
D. Resolving
E. Chronic

Q-14 A 43-year-old woman has had a chronic cough with fever and weight loss for the past month. A chest radiograph reveals multiple nodules from 1 to 4 cm in size, some of which demonstrate cavitation in the upper lobes. Which of the following cells is the most important in the development her lung lesions?

A. Macrophage
B. Fibroblast
C. Neutrophil
D. Mast cell
E. Platelets

Q-15 A 70-year-old man has experienced painful urination for 4 days .Numerous neutrophils are present in a smear of the exudates. from the penile urethra. These neutrophils undergo diapedesis to reach the organisms. Release of which of the following chemical mediators is most likely to drive neutrophil exudation?

A. Histamine
B. Prostaglandin
C. Hageman factor
D. Bradykinin
E. Complement

Q-16 A 64-year-old woman has infection Staphylococcus aureus and got antibiotic therapy. After 02 weeks a chest radiograph reveals a 3 cm rounded density in the right lower lobe whose liquefied contents form a central air-fluid level. Which of the following is the best description for this outcome of her pneumonia?

A. Hypertrophic scar
B. Abscess formation
C. Regeneration
D. Bronchogenic
E. Chronic inflammation

D. Six months
E. One year

Q-22 A 19-year-old man incurs a stab wound to the chest. Two months later there is a firm, 3 x 2 cm nodular mass with intact overlying epithelium in the region of the wound. This mass is excised and microscopically shows fibroblasts with abundant collagen. Which of the following mechanisms has most likely produced this series of events?

A. Keloid formation
B. Development of a fibrosarcoma
C. Poor wound healing from diabetes mellitus
D. Foreign body response from suturing
E. Staphylococcal wound infection

Q-23 An 11-year-old child falls and cuts his hand. The wound becomes infected. Bacteria extend into the extracellular matrix around capillaries. In the inflammatory response to this infection, which of the following cells removes the bacteria?

A B lymphocyte
B Fibroblast
C Macrophage
D Mast cell
E T lymphocy

Q-24 A woman who is allergic to cats visits a neighbor who has several cats. During the visit, she inhales cat dander, and within minutes, she develops nasal congestion with abundant nasal secretions. Which of the following substances is most likely to produce these fidings?

A Bradykinin
B Complement C5a
C Histamine
D Interleukin-1 (IL-1)
E Phospholipase C

Q- A 41-year-old man has had a severe headache and fever. A lumbar puncture is performed, and the cerebrospinal fluid obtained has a WBC count of 910/mm3 with 94% neutrophils and 6% lymphocytes. Which of the following substances is themost likely mediator for the fever observed in this man?

A Bradykinin
B Histamine
C Leukotriene B4
D Nitric oxide
E Tumor necrosis factor (TNF) (Doubt)

F17-64

Department of Pathology
Azra Naheed Medical College
Grand Test-3, 07 January 2020
MBBS 3rd Year (SEQ)
(Cell Injury, Healing and Repair, Inflammation)

Time Allowed: 60 min **Total Marks: 35**

Name: _____, Roll No: _____, Date: _____

Q-1 In a road side accident, a lacerated wound was inflicted on thigh of a young man. It got infected and took the longer time to heal with irregular scar formation.

a- Describe in chronological order the sequential steps of changes at local site of for this scar formation. 03

b- What are complication of wound healings 02

Q-2 Tabulate the differences of primary union and secondary union 03

b-What are factors affecting the wound healings? 02

Q-3 Describe the vascular changes in during acute inflammation 03

b-Name main chemical mediators in different phases of inflammation, make a flow chart to describe Cyclooxygenase pathway. 2.5

Q-4 What are different causes of Chronic granulomatous inflammation 2.5

b- What is the basic mechanism of granuloma formation. 5

Q-5 Define Necrosis, What are its different types. Give examples 2.5

b- Tabulate differences between Reversible and Irreversible cell injury. 2.5

b- Write down effects of Loss of ATP in Cell injury. 2

Q-7 Give physiological and pathological causes of apoptosis. 3

b-Draw mechanism of apoptosis

Less scar formation
No wound contraction,
Minimal loss of function.
Less inflammation

Q.No:01 Steps of Scar Formation :- (i) Hemostatic Plug :- compromised of the platelets which provides the prevention of injury from the bleeding. (ii) Inflammation is composed of the acute and chronic injury breakdown componenets of the active complement and the chemokines (iii) Cell proliferation (iv) Remodeling Fibroblast is be required to a stable wound.

Q.No.03 (b)

cell membrane phospholipids
↓ phospholipase
Arachadonic acid
cyclogenase — 5 lipooxygenase
Prostaglandin I_2
TA_2
TAx_2

Cell membrane phospholipids
↓ Phospholipase
Arachidonic Acid

- Cyclooxygenase
  - Prostaglands CI_2
  - ↓ Prostaglands H_2
  - ↓ TxA_2
  - ↓ PGD_2
  - PGE_2
- 5 lipooxygenase
  - LTA_4
  - ↓ LTC_4
  - ↓ LTD_4
  - ↓ LTE_4
- 12 lipooxygenase
  - ↳ LXB_4
  - LXA_4

Q.No: 06 (b)

Ischemia
↓
Mitochondria
↓
Oxidative phosphorylation
↓
↓ATP
↓

- ↓ Na pump
  - ↑ Influx of H_2O, Ca^+, Na^+
  - Efflux of K^+
  - ER swelling
  - cell swelling
- Anaerobic Glycolysis
  - Glycogen ↓
  - ↑ lactic acid
  - ↓ pH
- Detachment of Ribosomes
  - ↓ Protein synthesis

Ischemia
↓
mitochondria
↓
Oxidative phosphorylation
↓
ATP

↓Na — Anaerobi — Det