2021

CELL INJURY

1. Which is the most commonly used fixative in pathological specimen?

a. Glutaraldehyde
b. Formaldehyde
c. Alcohol
d. Picric acid

2. Capases are associated with which of the following ?

a. Hydopic degeneration
b. Collagen hyalinization
c. Embryogenesis
d. Fatty degeneration

3. Caspases are seen in which of the following ?

a. Cell division
b. Apoptosis
c. Necrosis
d. Inflammation

4. Light microscopic characteristic feature of apoptosis is:

a. Intact cell membrane
b. Eosinophilic cytoplasm
c. Nuclear moulding
d. Condensation of the nucleus

5. Coagulative necrosis is found in which infection ?

a. TB
b. Sarcoidosis
c. Gangrene
d. Fungal infection

6. Psmmoma bodies are seen in all except:

a. Follicular carcinoma of thyroid
b. Papillary carcinoma of thyroid
c. Serous cyst adenoma of ovary
d. Meningioma

7. Ageing is due to:

a. Accumulated mutations in somatic cells
b. Accumulation of free radicals
c. Decreased cross linking of collagen
d. Decreased antioxidants

8. Organelle which plays a pivotal role in apoptosis is:

a. Cytoplasm
b. Golgi complex
c. Mitochondria
d. Nucleus

9. Oxygen dependent killing is done through

a. NADPH oxidase
b. Superoxide dismutase
c. Catalase
d. Glutathione peroxidase

10. All of the following statements are true regarding reversible cell injury, except

a. Formation of amorphous densities in the mitochondrial matrix
b. Diminished generation of adenosine triphosphate (ATP).
c. Formation of blebs in the plasma membrane.
d. Detachment of ribosome's from the granular endoplasmic reticulum.

11. Fibrinoid necrosis may be observed in all of he following, except:

a. Malignant hypertension

b. Polyarteritis nodosa
c. Diabetic glomerulosclerosis
d. Asch off's nodule

12. In apoptosis, Apaf-I is activated by release of which of the following substances from the mitochondria?

a. Bcl-2
b. Bax
c. Bcl- XL
d. Cytochrome C

13.Which of the following is an anti-apoptotic gene ?

a. C-myc
b. P 53
c. Bcl-2
d. Bax

14. The most abundant glycoprotein present in basement membrane is:

a. Laminin
b. Fibronectin
c. Collagen type 4
d. .Heparan sulphate

15. Enzyme that protects the brain from free radical injury is:

a. Myeloperoxidase
b. Superoxide dismutase
c. MAO
d. Hydroxylase

16. Annexin V on non-permeable cell is indicative of:

a. Apoptosis
b. Necrosis
c. Cell entering replication phase
d. Cell cycle arrest

17. True about metastatic calcification is

a. Calcium level is normal
b. Occur in dead and dying tissue
c. Occur in damaged heart valve
d. Mitochondria involved earliest

18. Increased incidence of cancer in old age is due to

a. Telomerase reactivation
b. Telomerase deactivation
c. Inactivation of protooncogene
d. Increase in apoptosis

19. Both hyperplasia and hypertrophy are seen in ?

a. Breast enlargement during lactation
b. Uterus during pregnancy
c. Skeletal muscle enlargement during exercise
d. Left ventricular hypertrophy during heart failure.

20. Which of the following helps in generating oxygen burst in the neutrophils?

a. NADPH oxidase
b. Superoxide dismutase
c. Catalase
d. Glutathione peroxides

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21. Stain not used for lipid

a. Oil red O
b. Congo red
c. Sudan III
d. Sudan black

22. Acridine orange is a fluorescent dye used to bind

a. DNA and RNA
b. Protein
c. Lipid
d. Carbohydrates

23. PAS stains the following except

a. Glycogen
b. Lipids
c. Fungal cell wall
d. Basement membrane of bacteria

24. All are components of basement membrane except

a. Nidogen
b. Laminin
c. Entactin
d. Rhodopsin

25. Ultra-structural finding of irreversible injury

a. Ribosomal detachment from endoplasmic reticulum
b. Amorphous densities in mitochondria
c. Formation of phagolysosomes
d. Cell swelling

26. Caspases are involved in

a. Necrosis
b. Apoptosis
c. Atherosclerosis
d. Inflammation

27. True about Apoptosis are all except:

a. Inflammation is present
b. Chromosomal breakage
c. Clumping of chromatin
d. Cell shrinkage

28. The Following is an antiapoptotic gene

a. Bax
b. Bad
c. Bcl-X
d. Bim

29. Cytosolic cytochrome C plays an important function in

a. Apoptosis
b. Cell necrosis
c. Electron transport chain
d. Cell division

30. Which of the following pigments are involved in free radical injury?

a. Lipofuscin
b. Melanin
c. Bilirubin
d. Hematin

31. Most pathognomic sign of irreversible cell injury

a. Amorphous densities in mitochondria.
b. Swelling of the cell membrane
c. Ribosomes detached from endoplasmic reticulum

d. Clumping of nuclear chromatin

32. Which of the following is not a common site for metastatic calcification?

a. Gastric mucosa
b. Kidney
c. Parathyroid
d. Lung

33. Internucleosomal cleavage of DNA is characteristic of

a. Reversible cell injury
b. Irreversible cell injury
c. Necrosis
d. Apoptosis

34. Programmed cell death is known as:

a. Cytolysis
b. Apoptosis
c. Necrosis
d. Proptosis

35. Ladder pattern of DNA electrophoresis in apoptosis is caused by the action of the following enzyme:

a. Endonuclease
b. Transglutaminase
c. DNAse
d. Caspase

36. Calcification of soft tissues without any disturbance of calcium metabolism is called

a. Inotrophic calcification
b. Monotrophic calcification
c. Dystrophic calcification
d. Calcium induced calcification

37. The light brown perinuclear pigment seen on H & E staining of the cardiac muscle fibres in the grossly normal appearing heart of an 83 year old man at autopsy is due to deposition as:

a. Hemosiderin
b. Lipochrome
c. Cholesterol metabolite
d. Anthracotic pigment

38. Dystrophic calcification is seen in :

a. Rickets
b. Hyperparathyroidism
c. Atheromatous pigment
d. Vitamin A intoxication

39. The Fenton reaction leads to free radical generation when"

a. Radiant energy is absorbed by water
b. Hydrogen peroxide is formed by Myeloperoxidase
c. Ferrous are converted to ferric ions
d. Nitric oxide is converted to peroxynitrite anion

40. Which finding on electron microscopy indicates irreversible cell injury?

a. Dilatation of endoplasmic reticulum
b. Dissociation of ribosomes from rough endoplasmic reticulum
c. Flocculent densities in the mitochondria
d. Myelin figures

41. True about apoptosis is all, except:

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a. Considerable apoptosis may occur in a tissue before apparent in histology
b. Apoptotic cells appear round mass of the intensely eosinophilic cytoplasm with dense nuclear chromatin fragments
c. Apoptosis of cells induce inflammatory reaction
d. Macrophages phagocytose the apoptotic cells and degrade them.

42. True about cell ageing:

a. Free radicals injury
b. Mitochondria are increased
c. Lipofuscin accumulation in the cell
d. Size of cell increased

43. Mallory hyaline is seen in:

a. Alcoholic liver disease
b. Hepatocellular carcinoma
c. Wilson's disease
d. I.C.C. (Indian childhood cirrhosis)
e. Biliary cirrhosis

44. Heteropic calcification occurs in:

a. Ankylosing spondylitis
b. Reiter's syndrome
c. Forrestier's disease
d. Rheumatoid arthritis
e. Gouty arthritis

45. Pigmentation in the liver is caused by all except-

a. Lipofuscin
b. Pseudomelanin
c. Wilson's disease
d. Malarial pigment
e. \Bile pigment

46. Morphological changes of apoptosis include

a. Cytoplasmic blebs
b. Inflammation
c. Nuclear fragmentation
d. Spindle formation
e. Cell swelling

47. True about apoptosis

a. Migration of Leukocytes
b. End products are phagocytosed by macrophage
c. Intranuclear fragmentation of DNA
d. Activaion of caspases
e. Annexin V is a marker of apoptotic cell

48. Neutrophil secretes:

a. Superoxide dismutase
b. Myeloperoxidase
c. Lysosomal enzyme
d. Catalase
e. Cathepsin G

49. Which of the following is the hallmark of programmed cell death?

a. Apoptosis
b. Coagulation necrosis
c. Fibrinoid necrosis
d. Liquefaction necrosis

50. Which of the following is a peroxisomal free radical scavenger?

a. Superoxide dismutase
b. Glutathione peroxidase

c. Catalase
d. All of the above

51. Which of the following is an inhibitor of apoptosis?

a. Bad
b. Bax
c. Bcl-2
d. All of the above

52. Inhibitor of apoptosis is:

a. P53
b. Ras
c. Myc
d. Bcl-2

53. Apoptosis is associated with all of the following features except:

a. Cell shrinkage
b. Intact cellular contents
c. Inflammation
d. Nucleosome size fragmentation of nucleus

54. Liquefactive necrosis is typically seen in

a. Ischemic necrosis of the heart
b. Ischemic necrosis of the brain
c. Ischemic necrosis of the intestine
d. Tuberculosis

55. Wear and tear pigment in the body refers to

a. Lipochrome
b. Melanin
c. Anthracotic pigment
d. Hemosiderin

56. All of the following are morphological features of apoptosis except

a. Cell shrinkage
b. Chromatin condensation
c. Inflammation
d. Apoptotic bodies

57. Coagulative necrosis as a primary event is most often seen in all except:

a. Kidneys
b. CNS
c. Spleen
d. Liver

58. Metastatic calcification is most often seen in:

a. Lymph nodes
b. Lungs
c. Kidney
d. Liver

59. Russell bodies are seen in:

a. Lymphocytes
b. Neutrophils
c. Macrophages
d. Plasma cells

60. Liquefactive necrosis is seen in:

a. Heart
b. Brain
c. Lung
d. Spleen

61. Psammoma bodies show which type of calcification:

a. Metastatic
b. Dystrophic
c. Secondary
d. Any of the above

62. Gamma Gandy bodies contain hemosiderin and:

a. Na+
b. Ca++
c. Mg++
d. K+

63. Oncocytes are modified form of which of the following:

a. Lysososmes
b. Endoplasmic reticulum
c. Mitochondria
d. None of the above

64. Apoptosis is inhibited by:

a. Bcl-2
b. P53
c. Ras
d. C-myc

65. Organelle that plays a pivotal role in apoptosis

a. Endoplasmic reticulum
b. Golgi complex
c. Mitochondria
d. Nucleus

66. Intracellular calcification begins in the

a. Mitochondria
b. Golgi complex
c. Lysososme
d. ER

67. Irreversible injury in cell is

a. Deposition of Ca++ in mitochondria
b. Swelling
c. Mitotic figure
d. Ribosomal detachment

68. Apoptosis is

a. Cell degeneration
b. Type of cell injury
c. Cell regeneration
d. Cell activation

69. Mallory hyaline bodies are seen all except:

a. Indian childhood cirrhosis
b. Wilson's disease
c. Alcoholic hepatitis
d. Crigler-Najjar syndrome

70. Cellular adaptation is maintained even after live is partially resected. It is known as:

a. Hyperplasia
b. Hypertrophy
c. Metaplasia
d. Dysplasia

71. "Russell's body" are accumulations of:

a. Cholesterol
b. Immunogolobulins
c. Lipoproteins
d. Phospholipids

72. Dystrophic calcification is seen in:

a. Atheroma
b. Paget's disease
c. Renal osteodystrophy
d. Milk-alkali syndrome

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73. Pyogenic infection and brain infarction are associated with

a. Coagulative necrosis
b. Liquefactive necrosis
c. Caseous necrosis
d. Fat necrosis

74. In apoptosis initiation:

a. The death receptors induce apoptosis when it engaged by f*as* ligand system
b. Cytochrome C binds to a protein Apoptosis Activating (Apaf-1) Factor – 1
c. Apoptosis may be initiated by caspase activation
d. Apoptosis mediated through DNA damage

75. Necrosis is

a. Cell rapair
b. Degeneration
c. Regeneration
d. Growth

76. Apoptosis is due to

a. Ischemia
b. Programmed cell death
c. Post trauma
d. All

77. Brown atrophy is due to

a. Fatty necrosis
b. Hemosiderin
c. Lipofuscin
d. Ceruloplasmin

78. Psammoma bodies are typically associated with all of the following neoplasms except

a. Medulloblastoma
b. Meningioma
c. Papillary carcinoma of the thyroid
d. Papillary serous cystadenocarcinoma of the ovary

79. Transformation of one epithelium to other epithelium is known as

a. Dysplasia
b. Hyperplasia
c. Neoplasia
d. Metaplasia

80. Coagulative necrosis is seen in all except

a. Lung
b. Liver
c. Brain
d. Kidney

81. All are true about metaplasia except

a. Slow growth
b. Reverse back to normal with appropriate treatment
c. Irreversible
d. If persistent may induce cancer transformation

82. The gene for apoptosis is

a. Bcl-2
b. BRCA
c. RET
d. MYC

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83. About hyperplasia, which of the following statement is false?

a. (Mark of arrow upward) no of cells
b. (Mark of arrow upward) total organ size
c. Endometrial response to estrogen is an example
d. All

84. Crooke's hyaline body is present in:

a. Yellow fever
b. Basophil cells (Mark of arrow upward) of the pituitary gland in Cushing's syndrome
c. Parkinsonism
d. Huntington's disease

85. First cellular change in hypoxia:

a. Decreased oxidative phosphorylation in mitochondria
b. Cellular swelling
c. Alteration in cellular membrane permeability
d. Clumping of nuclear chromatin

86. Example of hypertrophy is:

a. Breast in puberty
b. Uterus during pregnancy
c. Ovary after menopause
d. Liver after resection

87. Dystrophic calcification is commonly seen in:

a. Hyperparathyroidism
b. Vitamin D deficiency
c. Atheromatous plaque
d. Lungs

88. Which process makes the bacteria 'tasty' to the macrophages:

a. Margi nation
b. Diapedesis
c. Opsonisation
d. Chemotaxis

89. About apoptosis, true statement is:

a. Injury due to hypoxia
b. Inflammatory reaction is present
c. Councilman bodies is associated with apoptosis
d. All of these

90. Metastatic calcification occurs in all except:

a. Kidney
b. Atheroma
c. Fundus of stomach
d. Pulmonary veins

91. Gene inhibiting apoptosis is:

a. Bcl2
b. P53
c. Ras
d. N-myc

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92. Fournier's gangrene is seen in:

a. Nose
b. Scrotal skin
c. Oral cavity
d. All are true

93. Coagulative necrosis is seen in:

a. Brain
b. Breast
c. Liver
d. All

94. Dystrophic calcification is:

a. Calcification in dead tissue
b. Calcification in living tissue
c. Calcification in dead man
d. None

Answer Key

1. b
2. c
3. b
4. d
5. a
6. a
7. a
8. c
9. a
10. a
11. c
12. d
13. c
14. a
15. b
16. a
17. d
18. a
19. b
20. a
21. b
22. a

51. c
52. d
53. c
54. b
55. a
56. c
57. b
58. b
59. d
60. b
61. b
62. b
63. c
64. a
65. c
66. a
67. a
68. b
69. d
70. a
71. b
72. a

23. b
b
24. d
a
25. b
b
26. b
b
27. a
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28. c
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29. a
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30. a
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31. a
c
32. c
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33. d
b
34. b
b
35. a
a
36. c
b
37. b
c
38. c
c
39. c
c
40. c
b
41. c
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42. c
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43. a
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44. a
a
45. None
46. a
47. b
48. b
49. a
50. d

73.
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93.
94.

INFLAMMATION

1. Which of the following complement component can active both common as well as alternative pathways?

e. C1
f. C2
g. C3
h. C4

2. Free radicals are generated by all except

e. Superoxide dismutase
f. Oxidase
g. Myeloperoxidase
h. No synthase

3. Which among the following is the hallmark of acute inflammation?

e. Vasoconstriction
f. Stasis
g. Vasodilation and increase in permeability
h. Leukocyte margination

4. Which of the following is not an inflammatory mediator?

e. Tumor Necrosis Factor
f. Myeloperoxidase
g. Interferons
h. Interleukin

5. Nephrocalcinosis in a systemic granulomatous disease is due to

e. Over production of 1,25 dihydroxy vitamin D
f. Dystrophic calcification
g. Mutation in calcium sensing receptors
h. Increased reabsorption

6. Main feature of chemotaxis is

e. Increased random movement of neutrophils
f. Increase adhesiveness to intima
g. Increased phagocytosis
h. Unidirectional locomotion of the neutrophils

7. Which one of the following statements is not correct regarding 'Stem cell'?

e. Developmental elasticity
f. Transdifferentiation
g. Can be harvested from embryo
h. "Knockout mice" made possible because of it.

8. Bradykinin is for:

e. Pain
f. Vasodilatation
g. Vasoconstriction
h. Increase vascular permeability

9. Characteristic of acute inflammation is:

e. Vasodilation and increased vascular permeability
f. Vasoconstriction
g. Platelet aggregation
h. Infiltration by neutrophils

10. Most bactericidal agent is:

e. Cationic basic protein
f. Lactoferrin
g. Lysozyme
h. Reactive O2 species

11. Which of the following helps in generating reactive O2 intermediates in the neutrophils?

e. NADPH oxidase
f. SOD (superoxide dismutase)
g. Catalase
h. Gultathione peroxidase

12. Bradykinin causes:

e. Vasoconstriction
f. Pain at the site of inflammation
g. Bronchodilation
h. Decreased vascular permebility

13. Basement membrane degeneration is mediated by:

e. Metalloproteinases
f. Oxidases
g. Elastases
h. Hydroxylases

14. Lewis triple response is caused due to:

e. Histamine
f. Axon reflex
g. Injury to endothelium
h. Increased permeability

15. Delayed prolonged bleeding is caused by:

e. Histamine
f. Endothelial retraction
g. IL-1
h. Direct injury to endothelial cells

16. Earliest transient change following tissue injury will be

e. Neutropenia
f. Neutrophilia
g. Monocytosis
h. Lymphocytosis

17. Factor present in the final common terminal complement pathway is:

e. C4
f. C3
g. C5
h. Protein B

18. All of the following vascular changes are observed in acute inflammation, except:

e. Vasodilation
f. Stasis of blood
g. Increased vascular permeability
h. Decreased hydrostatic pressure

19. To which of the following family of chemical mediators of inflammation, the Lipoxins belong?

e. Kinin system
f. Cytokines
g. Chemokines
h. Arachidonic acid metabolites

20. The epithelioid cell and multinucleated giant cells of Granulomatous inflammation are derived from:

e. Basophils
f. Eosinophils
g. CD4-T lymphocytes
h. Monocytes-Macrophages

21. The following host tissue responses can be seen in acute infection, except:

e. Exudation
f. Vasodilation
g. Margination
h. Granuloma formation

22. Lipid in the tissue is detected by:

e. PAS
f. Myeloperoxidase
g. Oil Red O
h. Mucicarmine

23. Which of the following is not true?

e. NADPH oxidase generate superoxide ion
f. MPO kills by OC1-
g. Chediak-Higashi syndrome is due to defective phagolysosome formation
h. In Bruton's disease there is normal opsonization

24. Both antibody dependent and independent complement pathway converge on which complement component?

e. C3
f. C5
g. C1q
h. C8

25. Nitroblue tetrazolium test is used for?

e. Phagocytes
f. Complement
g. T cell
h. B cell

26. C-C beta chemokines includes

e. IL-8
f. Eotaxin
g. Lymphotactin
h. Fractalkine

27. In acute inflammation due to contraction of endothelial cell cytoskeleton, which of the following results?

e. Delayed transient increase in permeability
f. Early transient increase
g. Delayed permanent increase
h. Early permanent increase

28. All of the following are mediators of acute inflammation except

e. Angiotensin
f. Prostaglandin E2
g. Kallikerin
h. C3a

29. All of the following are mediators of inflammation except:

e. Tumour necrosis factor-α (TNF-α)
f. Interleukin-1
g. Myeloperoxidase
h. Prostagladins

30. An adult old man gets burn injury to his hands. Over few weeks, the burned skin heals without the need for skin grafting.

The most critical factor responsible for the rapid healing in this case is:

e. Remnant skin appendages
f. Underlying connective tissues
g. Minimal edema and erythema
h. Granulation tissue

31. Granuloma is pathological feature of all, except

e. Giant cell arteritis
f. Microscopic polyangitis
g. Wegener's granulomatosis
h. Churg Strauss disease

32. Diapedesis is:

e. Immigration of leukocytes through the basement membrane
f. Immigration of the leukocytes through the vessel wall to the site of inflammation
g. Aggregation of platelets at the site of bleeding
h. Auto digestion of the cells

33. Granulomatous inflammatory reaction is caused by all, except:

e. M. tuberculosis
f. M. leprae
g. Yersinia pestis
h. Mycoplasma

34. Non-caseating granulomas are seen in all of the following except

e. Byssinosis
f. Hodgkin's lymphoma
g. Metastatic carcinoma of lung
h. Tuberculosis

35. Interleukin secreted by macrophages, stimulating lymphocytes is:

e. IFN alpha
f. TNF alpha
g. IL-1
h. IL-6

36. Cytokines are secreted in sepsis and Systemic Inflammatory Response Syndrome (SIRS) by -

e. Neutrophils
f. Adrenal
g. Platelets
h. Collecting duct
i. Renal cortex

37. Epithelial granuloma is caused by:

e. Neutrophil
f. Cytotoxic T-cells
g. Helper T-cells
h. NK cells

38. Endothelium leukocyte interaction during inflammation is mediated by/due to

e. Selectins
f. Integrins
g. Defensins
h. Endothelin

39. Febrile response in CNS is mediated by

e. Bacterial toxin
f. IL-1
g. IL-6
h. Interferon
i. Tumor necrosis factor (TNF)

40. Cytokines:

e. Includes interleukins
f. Produced only in sepsis
g. Are polypeptide (complex proteins)
h. Have highly specific action

41. Caseous necrosis in granuloma are not found in

e. Tuberculosis
f. Leprosy
g. Histoplasmosis
h. CMV
i. Wegener's granulomatosis

42. Absolute lymphocytosis is seen in

e. SLE
f. T.B.
g. CLL
h. Brucellosis

43. The most important function of epithelioid cells in tuberculosis is:

f. Phagocytosis
g. Secretory
h. Antigenic
i. Healing

44. In genetic deficiency of MPO the increased susceptibility to infection is due to:

f. Defective production of prostaglandins
g. Defective rolling of neutrophils
h. Inability to produce hydroxyl-halide radicals
i. Inability to produce hydrogen peroxide

45. Necrotizing epithelioid cell granulomas are seen in all, except:

f. Tuberculosis
g. Wegener's granulomatosis
h. Cat Scratch disease
i. Leprosy

46. Conversion of prothrombin to thrombin requires:

f. V only
g. V and Ca++
h. XII
i. X and Ca++

47. Which complement fragments are called 'anaphylatoxins'?

f. C3a and C3b
g. C3b and C5b
h. C5a and C3b
i. C3a and C5a

48. Epithelial granulomatous lesions are found in all of the following diseases, except:

f. Tuberculosis
g. Sarcoidosis
h. Berylliosis
i. Pneumocystis carinii

49. Cyoprecipitate is rich in which of the following clotting factors:

e. Factor II
f. Factor V
g. Factor VII
h. Factor VIII

50. Most important mediator of chemotaxis is:

e. C3b
f. C5a
g. C5-7
h. C2

51. Histamine causes

e. Hypetension
f. Vasoconstriction
g. Vasodilation
h. Tachycardia

52. Which of the following is absolutely essential for wound healing?

e. Vitamin D
f. Carbohydrates
g. Vitamin C
h. Balanced diet

53. Chronic granulomatous disease is;

e. Associated with formation of multiple granulomas
f. A benign neoplastic process
g. A parasitic disease
h. Acquired leukocyte function defect

54. First sign of wound injury is:

e. Epithelialization
f. Dilatation of capillaries
g. Leukocytic infiltration
h. Localized edema

55. Which of the following is the source of hepatic stem cells?

e. Limbus cells
f. Ito cell
g. Oval cell
h. Paneth cell

56. Which of the following is found in secondary granules of neutrophils?

e. Catalase
f. Gangliosidase
g. Proteolytic enzyme
h. Lactoferrin

57. In regeneration

e. Granulation tissue
f. Repairing by same type of tissue
g. Repairing by different type of tissue
h. Cellular proliferation is largely regulated by bio-chemical factors

58. Caseous granuloma is seen in

e. Histoplasmosis
f. Silicosis
g. Sarciodosis
h. Foreign body

59. All are mediators of neutrophils except:

e. Elastase
f. Cathepsin
g. Nitric oxide
h. Leukotrienes

60. Ultra-structurally, endothelial cells contain

e. Weibel Palade bodies
f. Langerhan's granules
g. Abundant glycogen
h. Kallikrein

61. After extravasation, leukocytes emigrate in the tissue towards the site of injury. It is called as

e. Margination
f. Chemotaxis
g. Diapedesis
h. Pavementing

62. Partial thromboplastin time correlates with:

e. Intrinsic and common pathway
f. Extrinsic and common pathway
g. Vessel wall integrity and intrinsic pathway
h. Platelet functions and common pathway

63. Bleeding time assesses:

e. Extrinsic clotting pathway
f. Intrinsic clotting pathway
g. Fibrinogen level
h. Function of platelets

64. The estimation of the prothrombin level is useful in the following clotting factor deficiency, except:

e. II
f. V
g. VII
h. IX

65. Which of the following is secondary mediator of the anaphylaxis is:

e. Histamine
f. Proteases
g. Eosinophilic chemotactic factor
h. Leukotriene B4

66. Birbeck's granules in the cytoplasm are seen in:

e. Langerhans cells
f. Mast cells
g. Myelocytes
h. Thrombocytes

67. The Eosinophils secrete all except

e. Major basic protein
f. Hydrolytic enzyme
g. Reactive form of O2
h. Eosinophilic chemotactic factor

68. The complex process of leukocyte movements through the blood vessels are all except

e. Rolling
f. Adhesion
g. Migration
h. Phagocytosis

69. In Lipooxygenase pathway of the arachidonic acid metabolism, which of the following products helps to promote the platelet aggregation and vasoconstriction?

e. C5a

f. Thromboxane A2
g. Leukotriene B4
h. C1 activators

70. All are true about exudates except

e. More protein
f. Less protein
g. More specific gravity
h. All

71. Chemotactic complement components are

e. C3a
f. C5a
g. Both
h. C3b

72. Non-caseating granuloma is seen in

e. Syphilis
f. Sarcodosis
g. Tuberculosis
h. All

73. All are granulomatous diseases except

e. Syphilis
f. Sarcoidosis
g. Schistosomiasis
h. P. carinii

74. In inflammatory process, the prostaglandin E1 and E2 cause

e. Vasodilatation
f. Increased gastric output
g. Decreased body temperature
h. Vasoconstriction

75. All of the following are signs of inflammation except

e. Pain
f. Swelling
g. Redness
h. Absence of functional loss

76. Opsonins are

e. C3a
f. IgM
g. Carbohydrate binding proteins
h. Selections'

77. Inflammatory mediator of generalized systemic inflammation is;

e. IL-1
f. IL-2
g. Interferon alpha
h. TNF

78. All are cytokines except:

e. Monoclonal antibody
f. Interleukin
g. Chemokine
h. TNF

79. Which of the following is the most characteristic of granuloma :

e. Epithelioid cell
f. Giant cell
g. Fibroblasts
h. Endothelial cell

80. Caseating granuloma are seen in:

e. Histoplasmosis
f. Sarcoidosis
g. Coccidiodomycosis
h. All

h. Elastin

81. Endogenous chemoattractant is:

e. C5a
f. Bacterial products
g. Lipopolysaccharide A
h. C8

82. Wound contraction is mediated by:

e. Epithelial cells
f. Myofibroblasts
g. Collagen

Answer Key

51. c
c
52. a
c
53. c
a
54. b
b
55. a
c
56. d
d
57. a
b
58. a,b.d
a
59. a
None
60. d
a

51. c
61. a
b
62. a
a
63. a
d
64. a
d
65. d
d
66. b
a
67. c
b
68. d
d
69. d
b
70. d
b

51.
61.
52.
62.
53.
63.
54.
64.
55.
65.
56.
66.
57.
67.
58.
68.
59.
69.
60.
70.

71. d

b

72. c

b

73. d

d

74. a

a

75. a

d

76. b

c

77. b

a

78. a

a

79. c

a

80. a

a

81. b

b

82. b

83. d

84. c

85. c

86. a

87. c

88. a

89. a

90. a

71.

91. b

72. 92. b

93. a

73.

94. c

74. 95. d

96. b

75.

97. d

76. 98. d

99. d

77.

100. b

78.

79.

HEMODYNAMICS

80.

HEMODYNAMICS

81.

1. All are true about blood coagulation except?

i. Factor X is a part of both intrinsic and extrinsic pathway.
j. Extrinsic pathway is activated by contact of plasma with negatively charged surfaces.
k. Calcium is very important for coagulation.
l. Intrinsic pathway can be activated in vitro.

2. Vitamin K is responsible for the carboxylation of which amino acid in the clotting factors?

i. Aspartate

j. Glutamate
k. Proline
l. Lysine

3. The initiating mechanism in endotoxic shock is

i. Peripheral vasodilatation
j. Endothelial injury
k. Increased vascular permeability
l. Reduced cardiac output

4. The initiating mechanism in end toxic shock is

i. Peripheral vasodilatation
j. Endothelial injury
k. Increased vascular permeability
l. Cytokine release

5. Edema in nephritic syndrome occurs due to

i. Na++ and water restriction
j. Increased venous pressure
k. Decreased serum albumin
l. Decreased fibrinogen

6. Pale infarct is seen in all except:

i. Lungs
j. Spleen
k. Kidney
l. Heart

7. Congenital hypercoagulability states all except

i. Protein C deficiency
j. Protein S deficiency
k. Anti-phospholipid antibody syndrome
l. MTHFR gene mutation

8. Thrombomodulin thrombin complex prevents clotting because:

i. Thrombomodulin inhibits prothrombin activator
j. The complex activates antithrombin III
k. Thrombomodulin-thrombin complex activates heparin
l. The complex removes thrombin and also activates protein C which inactivates the activated factors V and VIII

9. Fat embolism is commonly seen in:

i. Head injuries
j. Long bone fractures
k. Drowning
l. Hanging

10. D-Dimer is the most sensitive diagnostic test for:

i. Pulmonary embolism
j. Acute pulmonary oedema
k. Cardiac tamponade
l. Acute myocardial infarction

11. Vitamin K associated clotting factors are:

i. IX, X
j. I, V
k. VII, VIII
l. I, VIII

12. All endothelial cells produce thrombomodulin except those found in:

i. Hepatic circulation
j. Cutaneous circulation

k. Cerebral microcirculation
l. Renal circulation

13. Which of the following is a procoagulation protein?

i. Thrombomodulin
j. Protein C
k. Protein S
l. Thrombin

14. All of the following are correct about Thromboxane A2 except:

i. Low dose aspirin inhibits its synthesis
j. Causes vasoconstriction in blood vessels
k. Causes bronchoconstriction
l. Secreted by WBC

15. Virchow's triad includes all except

i. Injury to vein
j. Venous thrombosis
k. Venous stasis
l. Hypercoagulability of blood

16. Shock lung is characterized by

a. Alveolar proteinosis
b. Bronchiolitis obliterans
c. Diffuse pulmonary hemorrhage
d. Diffuse alveolar damnage

17. Hypercoagulability due to defective factor V gane is called:

a. Lisbon mutation
b. Leiden mutation
c. Antiphospholipid syndrome
d. Inducible thrombocytopenia syndrome

18. The Histological features of shock includes :

i. ATN
j. Pulmonary congestion
k. Depletion of lipids in adrenal cortex
l. Hepatic necrosis
m. Depletion of lymphocytes

19. Arterial thrombosis is seen in

i. Homocysteinemia
j. Anti-phospholipid syndrome
k. Protein S deficiency
l. Protein C deficiency
m. Antithrombin III deficiency

20. Hemorrhagic infarction is seen in:

i. Venous thrombosis
j. Thrombosis
k. Septicemia
l. Embolism
m. Central venous thrombosis

21. Hyperviscosity is seen in

i. Cryoglobulinemia
j. Multiple myeloma.
k. MGUS.
l. Lymphoma
m. Macroglobulinemia

22. Conditions associated with incoagulable state are:

i. Abruption placentae
j. Acute promyelocytic leukemia
k. Severe falciparum malaria
l. Snake envenomation
m. Heparin overdose

23. Predisposing factor for venous thrombosis:

i. AT III deficiency
j. Protein S deficiency
k. Protein C deficiency
l. Dysfibrinogenemia

24. Hyperviscosity syndrome is seen in:

i. NHL
j. Waldenstrom's macroglobulinemia
k. Multiple myeloma
l. Acute promyelocytic leukemia

25. Inherited coagulation disorders are :

i. Protein C deficiency
j. Proteins S deficiency
k. Leiden factor mutation
l. Lupus anticoagulant
m. Anti-cardiolipin

26. Coagulation defects associated with increased coagulation are seen in:

i. Increased Protein C
j. Increased Protein S
k. Increased Anti-thrombin III
l. Protein C resistance
m. Dysfibrinogenemia

27. Which of the following statements about pulmonary emboli is not correct?

i. 60-80% pulmonary emboli are clinically silent
j. In more than 95% cases venous emboli originate from deep leg veins
k. Embolic obstruction of pulmonary vessels almost always cause pulmonary infarction
l. Embolic obstruction of medium sized arteries may result in pulmonary infarction 3

28. Which of the following is a feature of Disseminated Intravascular Coagulation (DIC)?

i. Normal prothrombin time
j. Reduced plasma Fibrinogen
k. Normal platelet count
l. Normal clotting time

29. Red infracts occur in:

i. Kidney
j. Lung
k. Spleen
l. Heart

30. Which one of the following inherited disorders produces arterial thrombosis?

i. Factor V Leiden mutation
j. Antithrombin deficiency
k. Homocysteinemia
l. Protein S deficiency

31. All of the following are anticoagulant substances except

i. Antithrombin III
j. Protein S
k. vWF
l. Nitric oxide

32. Heart failure cells are found in:

i. Myocardium
j. Lung
k. Liver
l. Spleen

33. White infarcts are seen in the following except:

i. Liver
j. Kidney
k. Spleen
l. Heart

34. Tissue thromboplastin activates

i. Factor VII
j. Factor IV
k. Factor VI
l. None

35. Hypersensitivity vasculitis is seen in:

i. Post capillary venules
j. Arterioles
k. Veins
l. Capillaries

36. Cause of edema is

j. Decreased plasma protein concentration
k. Decreased lymph flow 50ml/hour
l. Increased ECF volume
m. Increased plasma protein concentration

37. Endothelium derived relaxing factor (EDRF) is associated with:

i. Ras
j. C-myc
k. Bc1
l. N NOS

38. Character of chyle is

i. Turbid
j. Protein>3.5g
k. Exudate
l. All

39. Which is not involved in local hemostasis?

j. Fibrinogen
k. Calcium
l. Vitamin K
m. Collagen

40. First of all fluid loss occurs from

i. Intracellular
j. Intravascular system
k. Extravascular system
l. None

41. Heart failure cells are seen in

j. Chronic venous congestion of liver
k. Chronic venous congestion of lung
l. Acute venous congestion of lung
m. Acute venous congestion of liver

42. Necrosis with putrefaction is called as:

i. Desiccation
j. Gangrene
k. Liquefaction
l. Coagulative necrosis

43. Which factor is not synthesized by liver:

j. Factor II
k. Factor VII
l. Factor IX
m. Factor VIII

44. Which is not a vitamin K dependent factor:

j. Factor II
k. Factor VII
l. Factor IX
m. Factor VIII

45. Lines of Zahn are found in:

j. Thrombus
k. Infarct tissue
l. Postmortem clot
m. All

46. Chicken fat clot is:

j. Postmortem clot
k. Thrombus
l. Infarct
m. All

Answer Key

101.	b	114.	d
102.	b	115.	b
103.	b	116.	d
104.	d	117.	b
105.	c	118.	a
106.	a	119.	a
107.	c	120.	a
108.	d	121.	a
109.	b	122.	a
110.	a	123.	All
111.	a	124.	b
112.	c	125.	a
113.	d	126.	d

127. c

128. b

129. b

130. c

131. c

132. b

133. a

134. a

135. a

136. a

137. d

138. d

139. c

140. b

141. b

142. b

143. d

144. d

145. a

146. a