# Model Questions on General Pathology

**SOQ**

**Cell Injury:**

1. Define pathology. What are the core contents of pathology?
2. What do you mean by pathogenesis?
3. What are the cellular responses to injurious stimuli?
4. Define cellular adaptation. What are the types of cellular adaptation?
5. Define atrophy. Mention 4 important causes of atrophy.
6. Tell the mechanism of atrophy.
7. Define hyperplasia? Mention 4 examples of hyperplasia.
8. What are the differences between hyperplasia and neoplasia?
9. What are the bad outcomes of hyperplasia? What are the types of cells involved in hyperplasia?
10. Define hypertrophy. Give the common examples of hypertrophy.
11. Define metaplasia. Mention important sites of metaplasia.
12. What are the causes of metaplasia? Mention the important sites of epithelial metaplasia.
13. What is the basic mechanism of hypertrophy? What is mechanism of left ventricular hypertrophy?
14. Give some examples of connective tissue and tumour metaplasia.
15. What are causes of cell injury?
16. What are the morphological types of cell injury? What do you mean by apoptosis?
17. What are the causes of occlusion of blood vessels?
18. What are the biochemical changes in ischaemic cell injury?
19. What are the ultrastructural changes in the reversible ischaemic cell injury?
20. What are the important ultrastructural changes in the irreversible ischaemic cell injury?
21. Define necrosis. Give the morphological types of necrosis with one example.
22. What do you mean by autolysis and heterolysis? What are the basic mechanism of necrosis and gangrene?
23. How the morphological changes occur in necrotic cell?
24. What are the types of gangrene? Give common sites of gangrene formation.
25. Give the common examples of apoptosis.
26. What are the morphology of apoptosis?
27. What are the differences between apoptosis and necrosis.
28. Give five examples of intracellular accumulation.
29. What is pathologic calcification? Give some example.
30. Give 5 examples of intracellular accumulation.
31. Tell the pathogenesis of fatty change of liver.
32. How intracellular accumulation occurs?
33. Define pathological calcification. Classify pathological calcification with examples.

34. Define metastatic calcification. What are the causes of hypercalcaemia? What are the common sites of metastatic calcification?

**Genetic Disorders**:

1. Define gene and mutation. (2.5+2.5)
2. Classify genetic disorders.
3. Classify mutation. What is point mutation? (3+2)

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4. Mention the transmission patterns of single gene disorders.
5. Mention 4 important autosomal dominant single gene disorders (Mandelian disorders).
6. What do you mean by karyotyping? Give, briefly, the pathogenesis of Down's syndrome (2+3)
7. Define cloning. What are the methods employed for indirect gene disorder diagnosis?
8. Mention the biochemical and molecular basis of single gene disorder (Mandelian disorders).
9. Mention 4 important single gene disorders associated with defect in structural protein disorders.
10. Mention 4 important single gene disorders associated with defect in enzymesNK.
11. Mention 5 important X-linked (sex linked) single gene disorders.

**Haemodynamic disorders:**

1. Define oedema. Give four important sites of oedema with its clinicopathological names. (1+4)
2. Mention five pathological categories of oedema.
3. Define transudate. Mention four important causes of increased hydrostatic pressure. (2+3)
4. Define exudates. Mention 4 important causes of exudative oedema. (2+3).
5. Mention the difference between exudates and transudate.
6. What is anasarca? What are the important causes of marked reduced plasma osmotic pressure? (1+4).
7. What do you mean by elephantiasis? What are the causes of oedema caused by lymphatic obstruction? (1+4)
8. Which electrolyte is mostly responsible for maintaining osmotic pressure of plasma? What are the causes of sodium retention? (1+4)
9. How oedema occurs in nephritic syndrome?
10. How oedema occurs in cirrhosis of liver?
11. Mention some clinical effects of oedema.
12. What do you mean by hyperaemia? Mention the causes of hyperaemia. (2+3)
13. What do you mean by congestion? Mention the causes of congestion. (2+3)
14. Define haemorrhage. Mention pathological terms when haemorrhage occurs in different body cavities.
15. What do you mean by thrombus? What is Vircow's triad? (2+3)
16. Enumerate the causes of endothelial injury.
17. What are the consequences of endothelial injury?
18. What are the prothrombotic properties of endothelium?NK
19. Enumerate the substances liberated from platelets.NK
20. What are the causes of alteration of blood flow?
21. Mention five important causes of hypercoagubility of blood.
22. What do you mean by antiphospholipid antibody syndrome?NK
23. What are essential components of thrombus?
24. Mention the sites where thrombus can occur.
25. Enumerate 3 important sites where thrombi could be formed. What are effects of arterial thrombus? (3+2)
26. Why thrombus develops frequently after surgery? What are the fates of a thrombus?
27. Define embolus. What are the different types of emboli? (2+3)

28. What is thromboembolism? Mention clinical consequences of thromboembolic events. (2+3)
29. What are the sources of pulmonary embolism? Mention the clinical consequences and fate of pulmonary embolism. (2+3)
30. Define saddle embolus. What is paradoxical embolus? (2+3)
31. Define systemic embolus. What are the sources of systemic embolus? (2+3)

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32. What are the major sites of arterial embolization? What are factors which depend on clinical consequences of systemic embolism? (2+3)
33. Define infarct. What are the causes of infarct? (1+4)
34. Classify infarcts.
35. What are cartelistic of red and white infarcts.
36. What are factors that influence development of infarcts?
37. What is morphology of infarcts?NK
38. How septic infarct develops?
39. nature of vascular supply can modify the extent of damage in infarction, give some example.
40. Define shock. What are the types of shock? (2+3)
41. What are clinical examples of cardiogenic shock?
42. What are the causes of septic shock?
43. What is the pathogenesis of septic shock?NK
44. What are the stages of shock? Why tachycardia and hypotension occurs in shock?NK (3+2)
45. Mention the pathogenesis of non-progressive shock.
46. What are vital organs affected in shock?

**Immunological Disorders:**

1. Define tolerance. How normal tolerance is disturbed?
2. Define autoimmunity. Mention 4 important autoimmune diseases.
3. What do you mean by HLA system? What is the importance of knowing HLA in disease production?
4. Define hypersensitivity. Mention the types of hypersensitivity.
5. What do you mean by amyloidosis? Classify amyloidosis.
6. What is atopy? Give the mechanism of Type-1 hypersensitivity reaction.
7. Define anergy. Give the role of type –IV hypersensitivity in immune granuloma formation.

**Inflammation:**

1. Define inflammation. What are the inflammatory agents?
2. What are the cardinal signs of acute inflammation with meanings?
3. What are the beneficial effects of inflammation?
4. What are harmful effects of inflammation?
5. What are the differences between acute and chronic inflammation?
6. Give the differences between exudate and transudate with examples.
7. What are the responses (components) of acute inflammation?
8. What are sequences occurs in vascular caliber in acute inflammation.
9. Define chronic inflammation. What are the causes of chronic inflammation?
10. Give the characteristics of chronic inflammation. Name cells of chronic inflammation.
11. Name the products released by activated macrophage during chronic inflammation.
12. What is granuloma? Name four examples of granulomatous diseases.
13. What do you mean by giant cell? Name the inflammatory giant cells. How inflammatory giant cells are formed?
14. Name caeating and non-caseating granuloma.
15. How will you differentiate tubercular and sarcoid granuloma?NK
16. How will you establish the aetiological diagnosis of granuloma?NK
17. How a granuloma is formed?

18. What are the steps of cellular events in acute inflammation?
19. How engulfed bacteria is destroyed by phagocytes?
20. Define chemotaxis. Mention important chemotactic agents.
21. What do you mean by opsonization? Mention some important opsonins.NK
22. What are the phagocytes? Mention the organs where cells of MPS are stored.

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23. What are outcome of acute inflammation? Define abscess.
24. Mention the morphological pictures of acute inflammation with one example of each. Define ulcer.
25. What are the sources of chemical mediators?
26. Mention the vasoactive amines with their sources and action.
27. What are the chemical mediators that cause vasodilatation?
28. What are the chemical mediators that cause increase vascular permeability?
29. What are the chemical mediators that cause pain? Mention the chemical mediator that cause fever.

**Neoplasia:**

1. Define tumour according to Willis. name 3 characteristics of a malignant tumour.
2. What do you understand by the terms cancer, carcinoma and sarcoma. Give common examples of carcinoma and sarcoma.
3. Define hamartoma and choriostoma. Give 3 differences between hamartoma and tumour.
4. What is teratoma? Mention the important sites of teratoma. What are the histologic types of teratoma.
5. Define with one example adenoma, polyp, papilloma, cyst, adenocarcinoma.
6. Name 4 important differences between benign and malignant tumour. Name the benign and malignant tumours arising from fibroblast.
7. What is metastasis? Name the routes of spread of a malignant tumour.
8. What are the features of anaplasia/
9. Name common 5 sites for metastasis
10. Name 3 human carcinogen. Give examples of microbiological human carcinogens.
11. Name five common childhood malignant tumours.
12. Mention 5 acquired pre-cancancerous conditions.
13. Define proto-oncogene and oncogene. Name the genes responsible for oncogeneis or tumerogenesis.
14. Name 5 inherited predisposition to cancer.
15. Enumerate the steps of invasion and metastasis.
16. What do you mean by direct and indirect chemical carcinogens, initiator, promoter and complete carcinogens?
17. Mention the ultraviolet rays. Which one is carcinogenic or tumourogenic?
18. What are the clinical features of tumour?
19. Define paraneoplastic syndrome. Give 3 examoles.
20. What do you mean by grading and staging of tumour? Mention the grades of squamous cell carcinoma . What do you mean by TNM classification?
21. Enumerate the outlines of laboratory diagnosis of tumour.
22. What is biopsy? Mention the types of biopsy.
23. What are the common specimens for cytological examination?
24. What are the common stains used for histopathological, cytological and haematological examination? What are commonly used fixative in histopathology and cystopathology?
25. Define tumour marker. What are uses of tumour marker?
26. Name 5 tumour markers with associated tumours.

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