

# Pathology Previous Year Questions with Solutions

TUTORIALS

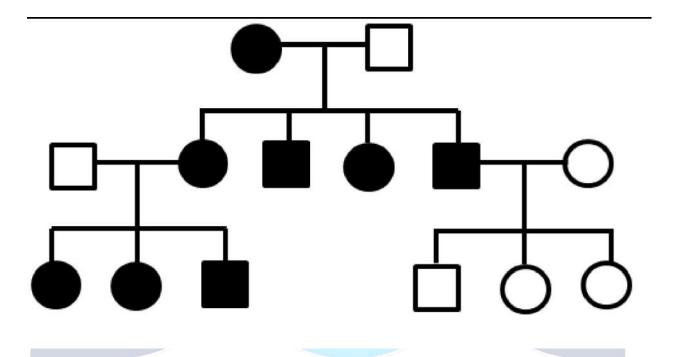


# **Pathology**

## **Question 1**

## Non-clinical question:

Which of the following conditions follows the inheritance pattern shown in the given pedigree chart?



## **Options:**

- A) Achondroplasia
- B) Kearns-Sayre syndrome
- C) Williams syndrome
- D) Prader-Willi syndrome

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Correct answer: B) Kearns-Sayre syndrome

#### Question 2

# Clinical question:

A patient presents with recurrent episodes of disseminated gonococcal infection. A joint aspirate during an episode of joint pain reveals Neisseria gonorrhoeae. Which of the following could be the underlying mechanism?

## **Options:**



- A) Myeloperoxidase deficiency
- B) PMN cell chemotactic defect
- C) Terminal complement deficiency
- D) C2 deficiency

Correct answer: C) Terminal complement deficiency

#### **Question 3**

## **Clinical question**

A patient presents with long limbs and ectopia lentis. His arm span is found to be greater than his height. Marfan syndrome is suspected. Which of the following gene defects is most likely responsible?

# **Options:**

- A) PLOD1
- B) Elastin
- C) Fibrillin
- D) COLA1

Correct answer: C) Fibrillin

#### **Question 4**

## **Clinical question**

A 45-year-old female presents with a 2-year history of progressive unilateral hearing loss, tinnitus, and ataxia. An MRI imaging of the brain reveals a well-defined tumour located in the cerebellopontine angle (CPA). A surgical resection is performed, and subsequent histopathological examination of the tumour reveals Antoni A and B areas. Which of the following is the most likely diagnosis?

## **Options:**

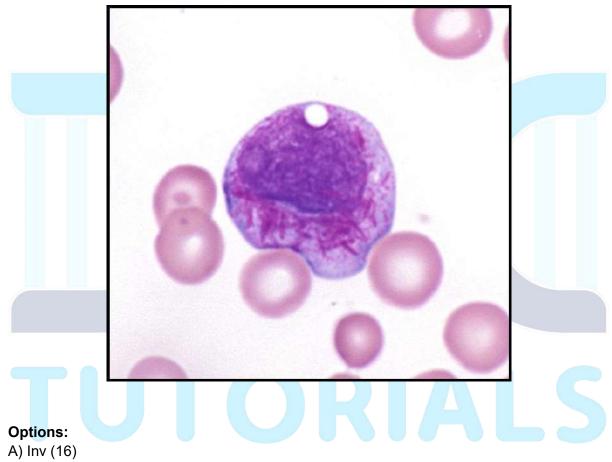
- A) Meningioma
- B) Ependymoma
- C) Schwannoma
- D) Vestibular neuritis

Correct answer: C) Schwannoma



# **Clinical question**

An elderly male presents with cervical lymph node enlargement and increased bleeding tendency. Bone marrow examination reveals >25% blasts, and the peripheral smear is as shown below. Which of the following cytogenetic abnormalities is most likely associated with this condition?



B) t(15;17)

C) t(8;21)

D) t(9;22)

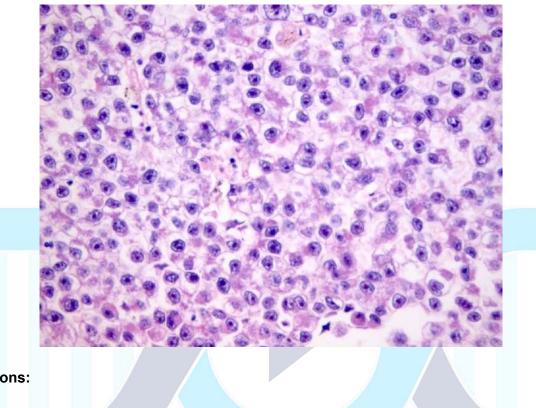
Correct answer: B) t(15;17)

**Question 6** 

**Clinical question** 



An elderly male presents with progressive, painless testicular swelling. Gross examination of the testis shows a multinodular, homogeneous, gray-white mass without haemorrhage or necrosis. Histopathological examination is shown below. What is the most likely diagnosis?



# **Options:**

- A) Yolk sac tumour
- B) Seminoma
- C) Embryonal carcinoma
- D) Leydig cell tumour

Correct answer: B) Seminoma

# **Question 7 Clinical question**

A patient presents with a midline neck swelling. Histology showed amyloid deposition, and immunohistochemistry is positive for synaptophysin, chromogranin, and TTF-1. Which of the following is the most likely diagnosis?

## **Options:**

- A) Papillary thyroid cancer
- B) Medullary thyroid cancer
- C) Follicular thyroid cancer
- D) Anaplastic thyroid cancer

Correct answer: B) Medullary thyroid cancer



## Non-clinical question

A gross specimen of the liver shows a well-circumscribed lesion, as shown below. What is the most likely diagnosis?



# **Options:**

- A) Hepatocellular adenoma
- B) Hepatocellular carcinoma
- C) Focal nodular hyperplasia
- D) Regenerative nodule

Correct answer: C) Focal nodular hyperplasia

**Question 9** 

**Clinical question** 



An elderly male presents with bilateral cervical lymph node enlargement. Histopathological examination reveals small cleaved cells as well as larger cells with open chromatin. Immunohistochemistry reveals CD10-positive and BCL2-positive cells. Which of the following cytogenetic abnormalities is most commonly associated with this condition?

## **Options:**

A) t(11;18)

B) t(14;18)

C) t(11;14)

D) t(8;14)

Correct answer; B) t(14;18)

#### **Question 10**

# Non-clinical question

Which of the following are caspase-mediated forms of cell death?

## **Options:**

- A) Apoptosis and necroptosis
- B) Apoptosis and necrosis
- C) Apoptosis and pyroptosis
- D) Apoptosis and ferroptosis

Correct answer: C) Apoptosis and pyroptosis

#### **Question 11**

# Clinical question

A patient presents with mild anaemia and jaundice. Examination reveals splenomegaly. Laboratory findings show an elevated mean corpuscular haemoglobin concentration (MCHC). His father has also had a similar clinical history. What is the most likely diagnosis?

#### **Options:**

- A) Hereditary spherocytosis
- B) Iron deficiency anaemia
- C) Autoimmune hemolytic anaemia
- D) Thalassemia minor

Correct answer: A) Hereditary spherocytosis

#### **Question 12**



# **Clinical question**

An 8-year-old child presents with progressive vision loss, and an MRI was done, which showed a suprasellar mass. Histopathology of the mass showed the findings of palisading epithelium and wet keratin. Which among the following is the most likely diagnosis?

## **Options:**

- A) Craniopharyngioma
- B) Pituitary adenoma
- C) Rathke's cleft cyst
- D) Meningioma

Correct answer: A) Craniopharyngioma

#### **Question 13**

## Clinical question

An elderly patient presents with fatigue, generalised lymphadenopathy, and hepatosplenomegaly. After examination and laboratory investigations, a diagnosis of CLL is made. Which of the following laboratory techniques is most useful to compare and quantify CD markers on cells?

## **Options:**

- A) ELISA
- B) Western blot
- C) Flow cytometry
- D) Immunohistochemistry

Correct answer: C) Flow cytometry

#### **Question 14**

## Non-clinical question

Antimitochondrial antibody (AMA) positivity is most strongly associated with which of the following conditions?

#### **Options:**

- A) Primary biliary cholangitis
- B) Autoimmune hepatitis
- C) Sarcoidosis
- D) Wilson's

Correct answer: A) Primary biliary cholangitis



## **Clinical question**

A patient presents with a 1-month history of cough, chest pain, and dyspnea. Imaging reveals bilateral hilar lymphadenopathy. Biopsy of a mediastinal lymph node shows non-caseating granulomas containing stellate inclusions. Which of the following is the most likely diagnosis?

#### **Options:**

- A) Tuberculosis
- B) Sarcoidosis
- C) Lung cancer
- D) Hypersensitivity pneumonitis

Correct answer: B) Sarcoidosis

#### **Question 16**

## Clinical question

A 45-year-old man presents with rapidly progressive swelling, pain, foul-smelling discharge, and discolouration of the hand following a traumatic injury, as shown in the image given below. What is the most likely diagnosis?







# **Options:**

- A) Wet gangrene
- B) Dry gangrene
- C) Infectious tenosynovitis
- D) Raynaud's phenomenon

Correct answer: A) Wet gangrene

## **Question 17**

## Clinical question

A middle-aged woman presents with dry eyes and dry mouth. Laboratory tests reveal positive anti-Ro (SSA) and anti-La (SSB) antibodies. What is the most likely underlying pathological mechanism?

## **Options:**

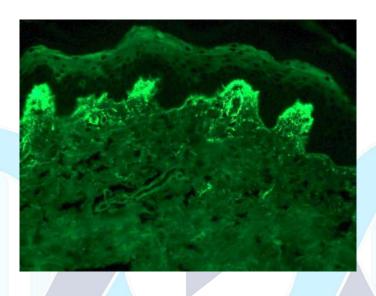
- A) Destruction of exocrine glands by neutrophils
- B) IgE-mediated hypersensitivity reaction
- C) Lymphocytic infiltration and destruction of salivary and lacrimal glands
- D) Deposition of amyloid in salivary glands

Correct answer: C) Lymphocytic infiltration and destruction of salivary and lacrimal glands



## **Clinical question**

A 36-year-old male patient with gluten sensitivity presents with intensely itchy, grouped vesicular lesions on the extensor surfaces. A skin biopsy with direct immunofluorescence shows the following finding. What is the most likely diagnosis?



# **Options**

- A) Bullous pemphigoid
- B) Pemphigus vulgaris
- C) Dermatitis herpetiformis
- D) Psoriasis

**Correct answer: C) Dermatitis herpetiformis** 

#### **Question 19**

## **Clinical question**

A patient presents with a persistent red lesion on the lateral border of the tongue. Biopsy confirms squamous cell carcinoma. Which of the following viral infections is most strongly associated with this malignancy?

#### **Options:**

- A) Epstein-Barr virus
- B) Cytomegalovirus
- C) Herpes simplex virus
- D) Human papillomavirus

Correct answer: D) Human papillomavirus



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