



KENYATTA UNIVERSITY

EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE AND BACHELOR OF SURGERY

HPA II: PATHOLOGY II - PAPER 3: SPOTS

2ND SEMESTER 2022/2023

TIME: 2 HOURS

INSTRUCTIONS:

- Answer ALL Questions in the provided booklets
- Each question corresponds to a numbered spot.

1. Photograph from a 24-year-old male who has had the swellings shown for six (6) months
 - a. Write a brief description of the swellings shown (1 mark)
 - b. List four differential diagnoses (2 marks)
 - c. Explain two criteria that would justify a biopsy of the swellings (2 marks)
2. 24 years old pastoralist.
 - a. Write a brief description of the clinical presentation (1 mark)
 - b. List four differential diagnoses (2 marks)
 - c. Explain two diagnostic investigations you would order (2 marks)
3. A microscopic field from a bone marrow trephine biopsy.
 - a. Write a brief description of the prominent feature highlighted (2 mark)
 - b. State the diagnosis (1 marks)
 - c. Explain two haematological features that would be present for this patient (2 marks)
4. A microscopic field from a bone marrow aspirate biopsy.
 - a. Write a brief description of the prominent feature highlighted (2 mark)
 - b. Explain the reporting of the above stain (2 marks)
 - c. State the default routine stain for this specimen type (1 marks)
5. Picture of an abnormal chromosome identified from a 60-year-old male.

- a. State the specific gene mutation that accounts for this chromosome
(1 mark)
 - b. State the proportion of CGL that is positive for this chromosome.
(1 mark)
 - c. Write the short annotation for this chromosome
(1 mark)
 - d. Name two clinical uses of this chromosome in the management of the patient
(2 marks)
6. Microscopic field from a patient with Acute myeloblastic leukaemia.
- a. Name the cells labelled i), ii) and iii).
(3 marks)
 - b. Name two significant cell inclusions present in this specimen
(2 marks)
7. Middle-aged female with multiple pathological fractures.
- a. Write a brief description of the prominent feature highlighted
(2 mark)
 - b. State and justify three tissue samples you would prefer to establish the diagnosis
(3 marks)
8. 5 years old boy, coagulation tests:
- a. Interpret the screening coagulation test results shown
(2 marks)
 - b. Interpret the substitution coagulation tests shown
(2marks)
 - c. State the diagnosis
(1 mark)
9. Examine the mounted peripheral blood film:
- a. State the main abnormality shown
(1 mark)
 - b. Explain the pathogenesis
(4 marks)
10. Study the Hb quantitation shown:
- a. State the main abnormality shown.
(1 mark)
 - b. Explain the pathogenesis.
(4 marks)
11. Study the complete blood count shown:
- a. Calculate the absolute granulocyte counts
(3 marks)
 - b. Name four causes for the abnormal cell counts
(2 marks)

12. Specimen of a blood bag:
- a. Match the composite constituents of the clear fluid within the bag and the function (4 marks)
 - b. State the shelf life of fresh whole blood collected in this bag. (1 mark)
13. Hysterectomy specimen from a 44-year-old.
- a. Describe the pathology shown (2 marks)
 - b. Name the likely diagnosis (1 mark)
 - c. List 2 complications of the disease shown (2 marks)
14. Photograph of a middle-aged woman.
- a. Name the underlying disease whose manifestation is shown.
 - b. List four common joints affected by the disease shown (2 marks)
 - c. Briefly explain the pathophysiology of the disease shown (3marks)
15. Study the images taken for a middle-aged male with back pain.
- a. What is the eponymic name for the disease process illustrated? (1 mark)
 - b. Name the causative agent and the special stain used to identify the organism (1mark)
 - c. List four complications seen in this disease (2marks)
 - d. Describe the microscopic findings shown (1 mark)
16. Uterine specimen from a 40-year-old with PV bleeding and history of recent pregnancy.
- a. Describe the gross morphology shown (2 marks)
 - b. List 2 likely sites of metastases (2 marks)
 - c. List one laboratory test used to monitor response to treatment (1mark)
17. Study the fetal radiograph provided.
- a. Identify the likely diagnosis (1 mark)
 - b. List 3 clinical features of the disease shown (3 marks)
 - c. Name the cause of the disease shown (1 mark)

18. Study the specimen provided.
- a. Name the pathology shown (1 mark)
 - b. List four (4) common symptoms (2 marks)
 - c. List two likely causes (2 marks)
19. Autopsy findings in 65-year-old male reported to have had a sudden death.
- a. Describe the gross morphology of the lesion shown (2 marks)
 - b. Outline 2 patterns of the lesion shown (2 marks)
 - c. Name one major underlying cause (1 mark)
20. Study the specimen shown:
- a. Name the pathology shown (1 marks)
 - b. List two clinical features (2 marks)
 - c. List the expected microscopic findings of the lesion shown. (2 marks)
21. Study the specimen provided.
- a. Identify the pathology shown (1 mark)
 - b. Name the vessel that is commonly ruptured. (1 mark)
 - c. List three important symptoms of this pathology (3 marks)
22. Study the provided specimen:
- a. Describe the gross morphology of the disease shown (2 marks)
 - b. Name the likely diagnosis (1 mark)
 - c. List two expected microscopic findings (2 marks)
23. Study the specimen showing a section of the aorta:
- a. Name 4 components of the lesion shown (2 marks)
 - b. List 3 complications of this disease (3 marks)
24. Potted lung specimen from a 65-year-old male smoker.
- a. Identify the pathology shown (1 mark)
 - b. List 4 risk factors (2 marks)

- c. Give 4 possible complications the disease shown (2 marks)
25. Study the specimen shown:
- a. Identify the pathology shown (1 mark)
 - b. List 4 risk factors for the condition shown (2 marks)
 - c. Name two complications that can result from this condition (2 marks)
26. Liver specimen:
- a. Describe the gross morphology shown (3 marks)
 - b. List 4 common causes of the pathology shown (2 marks)
27. Study the laboratory result for a 47-year-old female with pallor, fever, and oedema
- a. Explain the condition (2 marks)
 - b. Classify the causes of this condition (3 marks)
28. Specimen:
- a. Name the clinical condition (1 mark)
 - b. State two expected clinical symptoms for this condition (2 marks)
 - c. State two likely causes of this disease (2 marks)
29. Photograph of patient with thyroid nodule/ neck mass.
- a. State the diagnosis (1 mark)
 - b. State two common causes (2 marks)
 - c. State two diagnostic tests (2 marks)
30. Photograph from a 3-year-old boy who has been observed by his parents to be increasingly clumsy for the past 6 months. He is brought to the physician, who notes the appearance pictured.
- a. State the most likely diagnosis (1 mark)
 - b. Explain the pathogenesis of this disease (4 marks)
31. A 67-year-old man visits the physician because he has noticed an increasing yellowish hue to his skin for the past six months. On physical examination, there is no abdominal pain or tenderness, and the liver span is normal. Laboratory findings are shown.
- a. State the most likely diagnosis (1 mark)

- b. List and justify 4 other tests you would perform to confirm your diagnosis
(4 marks)

32. Photograph of microscopy of joint fluid aspirate from a 65-year-old man

- a. State the diagnosis (1 mark)
b. State one further laboratory test you would suggest (1 mark)
c. State the key physical sign and outline its pathogenesis. (3 marks)

33. Specimen:

- a. Name the clinical condition (1 mark)
b. State two expected clinical symptoms for this condition (2 marks)
c. State two likely causes of this disease (2 marks)

34. Specimen:

- a. Name the clinical condition (1 mark)
b. State two expected clinical symptoms for this condition (2 marks)
c. State two likely causes of this disease (2 marks)

35. Study the specimen shown:

- a. Identify the pathology shown (1 mark)
b. List 4 risk factors for the condition shown (2 marks)
c. Name two complications that can result from this condition (2 marks)

36. Study the specimen shown:

- a. Identify the pathology shown (1 mark)
b. List 4 risk factors for the condition shown (2 marks)
c. Name two complications that can result from this condition (2 marks)

37. Laboratory findings are shown.

- a. State the most likely diagnosis (1 mark)
b. List and justify 4 other tests you would perform to confirm your diagnosis
(4 marks)

38. Laboratory findings are shown.

- a. State the most likely diagnosis (1 mark)
b. List and justify 4 other tests you would perform to confirm your diagnosis
(4 marks)

39. Specimen from vulval skin:

- a. Name the pathology (2marks)
- b. State two viral causes (2marks)
- c. State the mode of acquiring the disease (1mark)

40. A 25yrs old female had antepartum haemorrhage *per vaginum*. This is a tumor following recent abortion.

- a. Name the tumor (1mark)
- b. List the common preceding pathology (2marks)
- c. Name the biochemical assay for diagnosis (1mark)
- d. Name the most common site for metastasis (1mark)

41. Ovarian tumor:

- a. State the gross pathology (1mark)
- b. Name the lesion (1mark)
- c. Classify the lesion (WHO classification) (1mark)
- d. Name one major complication (2mark)

42. A cell from the female genital tract.

- a. Name the cell (2marks)
- b. State the aetiology (1mark)
- c. State the CIN class (1mark)
- d. Name the TBS equivalent (The Bethesda System) (1mark)

43. These are reagents used in cell and tissue processing in anatomical pathology laboratory.

Stem; State the functions of A, B and C, respectively.

- a. A (2marks)
- b. B..... (2marks)
- c. C..... (1mark)

44. Photograph of anatomical zone:

- a. Name the adaptive process occurring in the area shown (2marks)
- b. Name the area shown (1mark)
- c. State importance of this area (1mark)

45. Specimen from an ovary:
- a. State the gross pathology (1mark)
 - b. Name the lesion (1mark)
 - c. List three syndromes characteristics of the lesion (3 marks)
46. Tools used in cytology:
- a. Name the tools (1mark)
 - b. Name the use of the tools in cytology (1mark)
 - c. State three advantages on answer B above
 - i. (1mark)
 - ii. (1mark)
 - iii. (1mark)
47. Two reagents used in the anatomical pathology laboratory:
- a. Name the nuclear stain (2.5marks)
 - b. Name the cytoplasmic stain (2.5marks)
48. Tumour nodule from the uterus:
- a. Name the lesion (1mark)
 - b. List four complications (4 marks)
49. A tool used in sampling cytology material.
- a. Name the tool (1mark)
 - b. State the type of cytology performed with the tool (1mark)
 - c. State three characteristics of specimen obtained with the tool (3 marks)
50. A postmenopausal female presented with the lesion shown.
- a. List the gross pathology (1mark)
 - b. Name the lesion (2marks)
 - c. List two symptoms of the lesion (2 marks)
51. The slide provided has been stained for histology reporting.
- a. Name the stains used (1 mark)
 - b. Name the stain would you use to demonstrate mucin (2 marks)
 - c. Name 2 stains that you would use to demonstrate tuberculous bacilli. (2 marks)

52. Study the specimen shown.

- a. Name the disease process in the slide provided (1 mark)
- b. List 3 features seen that led you to this diagnosis. (3 marks)
- c. Name one other disease process that may give a similar pattern (1 mark)

53. Slide:

- a. Identify the pathology in the slides provided. (1 mark)
- b. List the features seen to allow you identify the disease (3 marks)
- c. Which feature is high risk for Ca. breast? (1 mark)

54. Histopathology processing involves 5 steps. List these 5 steps in order and define each (5 marks).

55. Photograph of a weapon.

- a. Name 2 kinds of wounds that could be inflicted by this weapon. (2 marks)
- b. How would you differentiate the two kinds of wounds identified above? (2 marks)
- c. What important feature of this weapon would you document as a forensic pathologist. (1 mark)

56. This document was issued upon the death of a 24yrs old male killed using the weapon in spot 54 above.

- a. Name the document provided (1-mark)
- b. Formulate the cause and manner of death (3 marks)
- c. Name one likely mechanism of death (1mark)

57. Photograph of a deceased body:

- a. Identify the pathology in this photograph. (1 mark)
- b. What is the significance of this finding? (2 marks)
- c. What 2 other pathologies could be used for the same purpose? (2 marks)

58. A 32-year-old female presents with six months history of left breast mass. She is lactating.

- a. List 3 possible diagnosis in order of preference. (3 marks)
- b. A milky substance was obtained on needle aspiration.
 - i. Name 2 lab tests you use to process this biopsy for diagnosis. (2 marks)

59. Study the potted specimen:

- a. Identify the pathology in the pot provided. (1 mark)
- b. State one differential diagnosis (1 mark)
- c. Name three laboratory tests you would use to differentiate the 2 diseases. (3 marks)

60. A 16-year-old male complains of bilateral breast enlargement.

- a. State the possible diagnosis. (1 mark).
- b. Explain the likely cause (1 mark).
- c. List three possible causes if the patient was a 60-year-old man (3 marks)