

# **NZIMLS EXAMINATION FOR QUALIFIED MEDICAL LABORATORY TECHNICIAN**



## **PHLEBOTOMY 2025**

### **Part 1: Common Syllabus**

### **Part 2: Discipline Specific Syllabus**

**Candidate Name:   «Name»**

**Candidate No.:       «Member\_No»**

### General Instructions

1. Total marks for paper = 100.
2. Marks for each question are as indicated.
3. The paper consists of:

	<i>Common</i>	<i>Discipline Specific</i>
<b>Part 1:</b>		
Section A; questions 1-30	6 Marks	9 Marks
Section B; questions 31-34	5 Marks	
Section C; questions 35-36	4 Marks	
Section D; questions 37-39	5 Marks	
Section E; questions 40-45	10 Marks	
<i>Total Part 1:</i>	<i>30 Marks</i>	<i>9 Marks</i>
<b>Part 2:</b>		
Section A; questions 46-47		6 Marks
Section B; questions 48-49		5 Marks
Section C; questions 50-60		30 Marks
Section D; questions 61-62		20 Marks
<i>Total Part 2:</i>		<i>61 Marks</i>
4. All questions are to be attempted.
5. Use of calculator is permitted.
6. Put all answers into the examination booklet provided.

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WORD DEFINITIONS	
Calculate	Perform a mathematical process to get the answer
Classify	Be able to designate to a group
Compare	Detail both the differences and the similarities
Complete	Finish, have all the necessary parts
Convert	Express in alternative units
Define	State meaning clearly and concisely
Describe	Give a complete account demonstrating a thorough practical knowledge
Discuss	Give details, explaining both the positives and negatives
Distinguish	To briefly point out the main differences
Expand	To express at length or in a greater detail
Identify	Recognise according to established criteria
Indicate	Briefly point out
Interpret	Express the results of a test or series of tests in a meaningful format
Label	Give a name to
List	Headings only
Match	Find one that closely resembles another
Name	A word or group of words used to describe or evaluate
Outline	Write brief notes incorporating the essential facts
State	Give the relevant points briefly

# PART ONE

Section A; questions 1-30	<i>Common</i> 6 Marks	<i>Discipline Specific</i> 9 Marks
Section B; questions 31-34	5 Marks	
Section C; questions 35-36	4 Marks	
Section D; questions 37-39	5 Marks	
Section E; questions 40-45	10 Marks	
<b>Total Part 1:</b>	<b>30 Marks</b>	<b>9 Marks</b>

**PART 1: SECTION A – COMMON AND DISCIPLINE SYLLABUS MULTI CHOICE QUESTIONS**

Multi Choice Questions 1 – 30

Instructions: Multi-choice questions – circle one answer for each question. If you make a mistake, clearly cross-out the incorrect answer and circle your new choice.

Marks: 0.5 per correct answer

Total Marks: 15

**Example:** *Which of the below is a primary colour?*

- a. *Green*
- b. *Purple*
- ☒ c. *Red*
- d. *Orange*

C1. The prefix “hypo” refers to:

- a. Reduced
- b. Raised
- c. Absent
- d. Removed

C2. Olecranon bursitis is associated with which body joint?

- a. Shoulder
- b. Knee
- c. Hip
- d. Elbow

C3. Which organs are responsible for removing toxins from the human body?

- a. Liver and Stomach
- b. Kidney and Stomach
- c. Heart and Stomach
- d. Liver and Kidneys

C4. Annual Practicing Certificates are issued by:

- a. Medical Sciences Council of New Zealand
- b. The New Zealand Institute of Medical Laboratory Science (Inc.)
- c. IANZ
- d. Te Whatu Ora – Health New Zealand

C5. Principles that govern the right behaviour are:

- a. Standards
- b. Methods
- c. Criteria
- d. Ethics

C6. A lavender top blood tube contains which anti-coagulant?

- a. Sodium fluoride
- b. Ethylenediaminetetraacetic Acid
- c. Sodium citrate
- d. Heparin

C7. Test and tag is a requirement for:

- a. First Aid training
- b. Fire safety
- c. Electrical safety
- d. Biohazard safety

C8. Vitreous fluid is taken from:

- a. Eye
- b. Joint
- c. Artery
- d. Lumbar puncture

C9. Formalin is a solution primarily used in which laboratory department?

- a. Biochemistry
- b. Haematology
- c. Blood Bank
- d. Histology

C10. Which guidelines are used as industry standard for specimen transport?

- a. NATA guidelines
- b. H&S guidelines
- c. IATA guidelines
- d. IANZ guidelines

- C11. Laboratory computer systems have personalised logins to ensure that:
- a. HR know when staff are working
  - b. Management can track individual staff KPI's
  - c. Computer entries can be appropriately tracked
  - d. Errors are logged appropriately
- C12. Getting permission from a patient to proceed with a test is best described as:
- a. Informed consent
  - b. Patient confidentiality
  - c. Cultural competence
  - d. Patient information
- D13. Which of the following is NOT a white blood cell?
- a. Neutrophil
  - b. Erythrocyte
  - c. Monocyte
  - d. Basophil
- D14. Sclerosed veins are unsuitable for venepuncture because they are:
- a. Swollen
  - b. Bruised
  - c. Hardened
  - d. Superficial



D15. What is the correct order of draw for venipuncture using standard tubes?

- a. Red, blue, green, lavender, grey
- b. Blood cultures, light blue, red/gold, green, lavender, grey
- c. Lavender, red, green, blue, grey
- d. Blood cultures, red, green, blue, grey, lavender

D16. The most important step in specimen collection is:

- a. Identifying the patient
- b. Collecting the correct specimen
- c. Hand hygiene
- d. Using the correct needle size

D17. What is the correct order of removing PPE?

- a. Goggles, gloves, mask, gown
- b. Mask, gloves, gown, goggles
- c. Gloves, gown, goggles, mask
- d. Gloves, goggles, gown, mask

D18. Which of the following is an example of a physiological variable?

- a. Clotted specimen
- b. Improper tourniquet technique
- c. Insufficient sample quantity
- d. Blood pressure

- D19. Which nerve is in the antecubital fossa?
- a. Sciatic nerve
  - b. Axillary nerve
  - c. Radial nerve
  - d. Median nerve
- D20. What condition is associated with high bilirubin in newborns?
- a. Diabetes mellitus
  - b. Pancreatitis
  - c. Jaundice
  - d. Hypothyroidism
- D21. What does the term “Diurnal Variation” refer to?
- a. Urine Output over a 24-hour period
  - b. Changes in physiological functions over 24 hours
  - c. Peak and trough levels of drug levels
  - d. Biological changes due to disease
- D22. What is the primary reason for wiping away the first drop of blood in a capillary puncture?
- a. It contains interstitial fluid
  - b. It looks unclean
  - c. To remove potential clots
  - d. To avoid air bubbles

D23. Cloudy plasma in a sample can indicate:

- a. Haemolysis
- b. Infection
- c. Lipidemia
- d. Leukocytosis

D24. Which test can be performed instead of Mantoux testing?

- a. Tuberculin
- b. HCG quantification
- c. Serum band quantitation
- d. QuantiFERON gold

D25. Why is it important to fill tubes to the correct volume?

- a. To reduce needle recoil
- b. To ensure the vacuum works
- c. To maintain the proper blood-to-additive ratio
- d. To allow for more test analysis

D26. When should a phlebotomist label specimen tubes?

- a. Immediately after collection, in front of the patient
- b. While collecting the specimen
- c. Before collecting the specimen
- d. After leaving the patient's room

D27. Which of the following is the most preferable for a fingerprick collection?

- a. Little / pinky finger
- b. Ring finger
- c. Index finger
- d. Thumb

D28. What is the correct way to dispose of sharps?

- a. Recap and dispose in general waste
- b. Place the sharp in a biohazard bag
- c. Dispose in a rigid walled sharps container
- d. Engage safety device and place in a yellow biohazard bin

D29. Cytology studies are performed on a urine sample to detect:

- a. Red blood cells
- b. Abnormal cells
- c. Pregnancy hormones
- d. Bacterial infections

D30. The angle of a needle insertion for a butterfly needle should be:

- a. 5° to 10°
- b. 30° to 45°
- c. 15° to 20°
- d. 20° to 30°

*Total marks: 15*

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**END OF PART 1, SECTION A**

## PART 1, SECTION B – COMMON SYLLABUS QUESTIONS

Labelling of diagrams e.g. anatomy, hazard identification, instrument





Questions 31 – 34

Total Marks: 5

C31. Name the following hazard symbols:

(2 marks)

(0.5 mark per correct answer)

a.		b.	
c.		d.	

a.

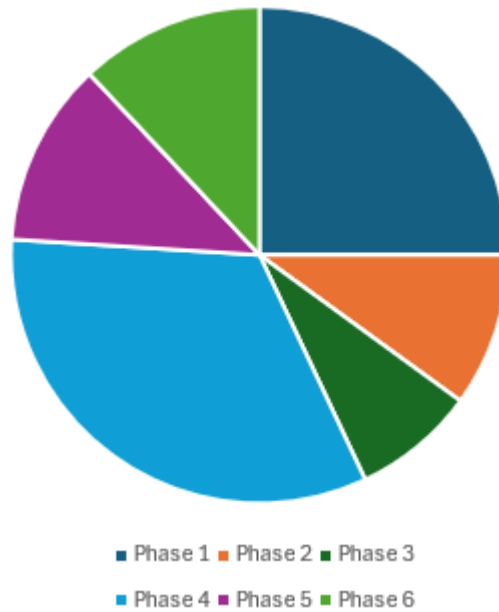
b.

c.

d.

C32. Name the type of graph pictured below:

(1 mark)



Type of graph:

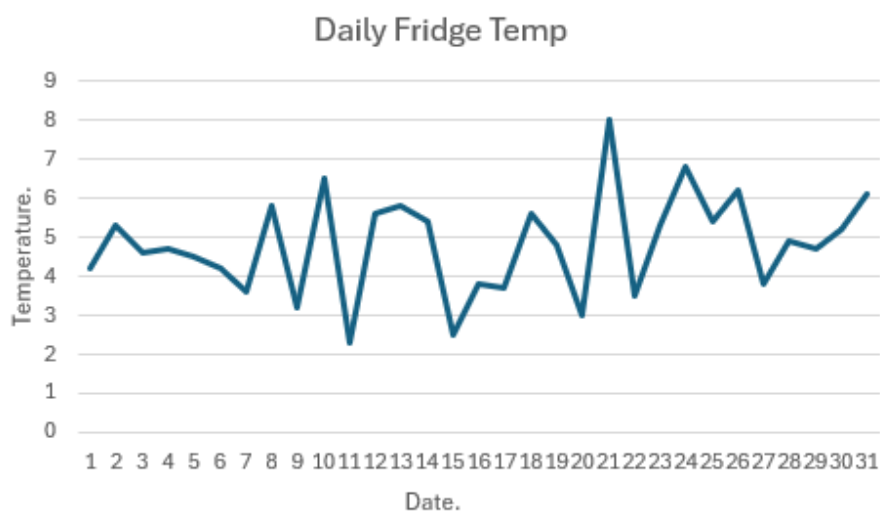
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What is the approximate percentage of the chart that is phase 1?

\_\_\_\_\_

C33. Name the type of graph pictured below:

(1.5 marks)



Type of graph:

\_\_\_\_\_

Name the axis: Temperature = \_\_\_\_\_ Date = \_\_\_\_\_

C34. Name the piece of equipment pictured below:

(0.5 mark)



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*Total marks: 5*

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**END OF PART 1, SECTION B**

**PART 1, SECTION C – COMMON SYLLABUS QUESTIONS**

Tables, match column definition

Section C – Questions 35 to 36

Total marks: 4

- C35. Match the columns by **writing the Roman numeral from the test list in Column B against the correct match in Column A.** (2.5 marks)

Column A	Column B
a. Microtome	i. Inflammatory marker
b. C Reactive Protein	ii. Coagulation
c. Prothrombin time	iii. Foetal Red Cells
d. Polymerase Chain Reaction	iv. Molecular technique
e. Kleihauer test	v. Histology

Column A	Column B
a. Microtome	
b. C Reactive Protein	
c. Prothrombin time	
d. Polymerase Chain Reaction	
e. Kleihauer test	



C36. Expand the common abbreviations:

(1.5 marks)

A.	B.
a. CKD	
b. DKA	
c. AML	

*Total marks: 4*

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**END OF PART 1, SECTION C**

**PART 1, SECTION D – COMMON SYLLABUS QUESTIONS**

Calculations

Section D – Questions 37 to 39

Total marks: 5

C37.a A 200  $\mu\text{L}$  pipette is due for calibration. 5 aliquots of deionized water were taken and weighed. The results are below.

- i. 0.2015 gm
- ii. 0.2018 gm
- iii. 0.2009 gm
- iv. 0.2002 gm
- v. 0.2011 gm

Calculate the average weight of the aliquots taken?

(Show all calculations)

(1 mark)

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C37.b Calculate the percentage variance of the mean from the desired 200  $\mu\text{L}$ ?

(Show all calculations)

(1 mark)

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C38. Convert the following:

(2 marks)

1.5 mL	to	_____	$\mu\text{L}$
3/8	to	_____	%
0.25 kg	to	_____	mg
7.5 cm	to	_____	mm

- C39. How many millilitres of alcohol is required to make 2.0 litres of a 70% alcohol bench wash solution? (1 mark)

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*Total marks: 5*

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**END OF PART 1, SECTION D**

**PART 1, SECTION E – COMMON SYLLABUS QUESTIONS**

Short answer questions (answers = one or more words, short sentences)

Section E – Questions 40 to 45

Total marks: 10

- C40. Define a notifiable incident according to the Health and Safety at Work Act 2015. (1.5 marks)

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- C41. Describe the theory and laboratory procedure of decontamination of biohazards and infectious agents in the laboratory. (2.5 marks)

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C42. Define patient confidentiality.

(1.5 marks)

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C43. Define the ISO 15189 standard, what is its function and who it is administered by in New Zealand.

(1.5 marks)

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C44. Describe precautions taken to ensure safety and security of laboratory data.

(1.5 marks)

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C45. Define the concept of safe practice within the laboratory.

(1.5 marks)

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*Total marks: 10 marks*

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**END OF PART 1, SECTION E**

# PART TWO

## *Discipline Specific*

Section A; questions 46-49	6 Marks
Section B; questions 50-52	5 Marks
Section C; questions 53-65	30 Marks
Section D; questions 66-67	20 Marks
<b>Total Part 2:</b>	<b>61 Marks</b>

**PART 2, SECTION A – DISCIPLINE SYLLABUS QUESTIONS**

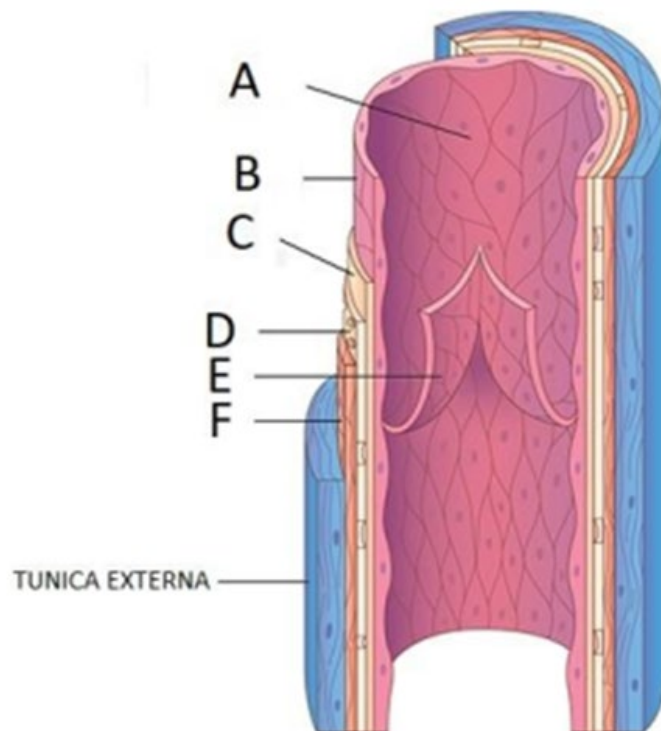
Labelling of diagrams e.g. anatomy, hazard identification, instrument

Questions 46 – 47

Total Marks: 6

D46. Label the vein diagram below:

(3 marks)



Word List:

Basement Membrane  
Endothelium  
Tunica Media

Elastic Lamina  
Lumen  
Valve

A.

B.

C.

D.

E.

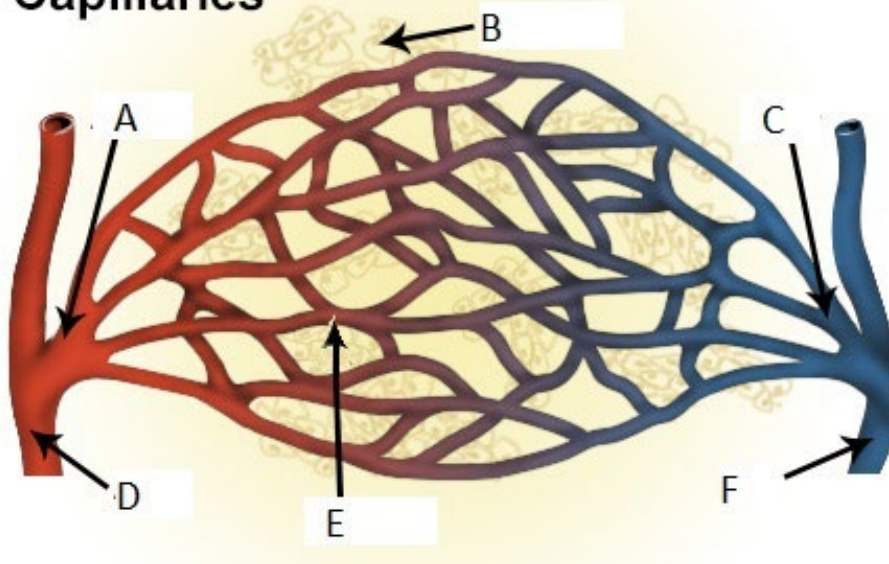
F.

D47. Identify the areas labelled A-F below

(3 marks)



## Capillaries



Word List:

Artery

Capillary

Vein

Arteriole

Tissue Cells

Venule

A.

\_\_\_\_\_

C.

\_\_\_\_\_

E.

\_\_\_\_\_

B.

\_\_\_\_\_

D.

\_\_\_\_\_

F.

\_\_\_\_\_

*Total marks: 6 marks*

**END OF PART 2, SECTION A**

**PART 2, SECTION B – DISCIPLINE SYLLABUS QUESTIONS**

Tables, match column definition

Questions 48 to 49

Total marks: 5

- D48. Match the columns **by writing the Roman numeral from the additive in Column B against the correct match in Column A.** (2.5 marks)

Column A	Column B
a. Grey	i. Lithium heparin
b. Green	ii. Ethylenediaminetetraacetic acid
c. Gold	iii. Sodium citrate
d. Pink	iv. Fluoride oxalate
e. Light Blue	v. Silica particles

Column A	Column B
a. Grey	
b. Green	
c. Gold	
d. Pink	
e. Light Blue	

- D49. Match the columns **by writing the Roman numeral from the body part in Column B against the related test in Column A.** (2.5 marks)

Column A	Column B
a. Troponin	i. Liver
b. Creatinine	ii. Thyroid
c. Insulin	iii. Heart
d. Albumin	iv. Kidney
e. TSH	v. Pancreas

Column A	Column B
a. Troponin	
b. Creatinine	
c. Insulin	
d. Albumin	
e. TSH	

*Total marks: 5 marks*

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**END OF PART 2, SECTION B**

**PART 2, SECTION C – DISCIPLINE SYLLABUS QUESTIONS**

Short answer questions (answers = one or more words, short sentences)

Questions 50 to 60

Total marks: 30

D50. List the **SIX (6)** links of the chain of infection.

(3 marks)

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D51. Identify **FOUR (4)** requirements for a Glucose Tolerance Test.

(2 marks)

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D52. Describe **FOUR (4)** labelling requirements on the tube for New Zealand Blood Service. (2 marks)

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D53. List **SIX (6)** pre-analytical variables that may affect patient results. (3 marks)

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D54. Outline **SIX (6)** instructions you would give a patient for the collection of a sputum sample. (3 marks)

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- D55. Describe the specific collection and handling requirements needed for the following sample collections. Explain the reasoning behind these requirements. (4 marks)

Homocysteine:

(1 mark)

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Semen for Fertility:

(1 mark)

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Cold agglutinins:

(1 mark)

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H. Pylori Antigen:

(1 mark)

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- D56. List **FOUR (4)** reasons why a laboratory may reject a patient specimen. (2 marks)

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- D57. Describe **FOUR (4)** techniques to avoid a haematoma during venepuncture. (2 marks)

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- D58. List **EIGHT (8)** steps taken for a Blood Culture collection. (4 marks)

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- D59. State the correct order of draw for microtainer tubes **and** list **THREE** (3 marks)  
**(3)** reasons why this order is important.

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- D60. Outline Trough and Peak levels in blood sample collection. (2 marks)

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*Total marks: 30 marks*

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**END OF PART 2, SECTION C**



**PART 2, SECTION D – DISCIPLINE SYLLABUS QUESTIONS**

Essays

Questions 61 to 62

Total marks: 20

**PART 2, SECTION D – DISCIPLINE SYLLABUS QUESTIONS**

Essays

Questions 61 to 62

Total marks: 20

**PART 2, SECTION D – DISCIPLINE SYLLABUS QUESTIONS**

Essays

Questions 61 to 62

Total marks: 20

**PART 2, SECTION D – DISCIPLINE SYLLABUS QUESTIONS**

Essays

Questions 61 to 62

Total marks: 20

- D61. Fainting (vasovagal syncope) is a common adverse reaction during phlebotomy. (10 marks)

In essay format, describe how this incident occurs, how to recognize early warning signs, the appropriate immediate actions that must be taken when a patient faints, and steps to prevent its occurrence. Also, explain potential risks to the patient if not managed correctly.

[illegible]

[illegible]

D62. In essay format, describe the adverse event procedure when during a venipuncture procedure there is an accidental puncture of an artery.

(10 marks)

Your answer should include remedial actions, clinical reasoning, potential complications and how this relates to standard phlebotomy procedures.

[illegible]

[illegible]

**END OF PART 2, SECTION D**

**END OF PAPER**

### Extra paper

[illegible]