G.C.E. O/L Grade 11 ICT · Lesson 2

Lesson 2 O/L Exam Practice: Questions and Answers

These questions are in the style of the O/L ICT exam. Paper I has multiple choice questions. Paper II has structured questions with parts, model answers and marking points. They cover all of Lesson 2 (2.1 and 2.2): systems and their components, manual and computer-based systems, data and information, qualities of information, data flow diagrams, the six SDLC phases, fact finding, design, testing and test data, changeover, maintenance, and the waterfall and iterative life cycles. Try them first, then check the answers.

Paper I – Multiple choice questions (25)

1. A set of parts working together to reach a goal is a

A. field
B. system
C. record
D. file

2. At a supermarket POS, scanning a barcode is

A. feedback
B. storage
C. input
D. output

3. The printed bill at a POS is

A. control
B. a process
C. input
D. output

4. Using sales reports to decide what stock to order is an example of

A. pilot changeover
B. feedback
C. input only
D. coding

5. Raw facts with no meaning by themselves are

A. data
B. knowledge
C. software
D. information

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

6. “Class 11B average is 71” is

A. a data store
B. raw data
C. information
D. an external entity

7. Information that has no mistakes is

A. accurate
B. cheap
C. timely
D. relevant

8. A disadvantage of a computer-based system is

A. automatic calculations
B. small storage space
C. fast searching
D. high cost to start

9. In a DFD, the open box symbol is a

A. external entity
B. data store
C. decision
D. process

10. A person outside the system who sends or receives data is shown in a DFD as an

A. process
B. data flow
C. external entity
D. data store

11. How many phases does the SDLC in the syllabus have?

A. 4
B. 8
C. 5
D. 6

12. The correct order is

A. design → implementation → testing
B. testing → design → implementation
C. design → testing → implementation
D. implementation → design → testing

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

13. The last phase of the SDLC is

A. deployment
B. design
C. maintenance
D. testing

14. “Can the project be finished before the new school year?” is

A. economic feasibility
B. schedule feasibility
C. legal feasibility
D. unit testing

15. Reading old registers and receipts is

A. interview
B. questionnaire
C. document review
D. observation

16. Deciding the screens, buttons and languages is

A. deployment
B. database design
C. corrective maintenance
D. interface design

17. Testing that the issue screen correctly saves into the Loans table is

A. unit testing
B. observation
C. user acceptance testing
D. integration testing

18. For a field that accepts 1 to 50, the boundary values are

A. 0 and 51 only
B. 1 and 50
C. 25 and 30
D. −1 and “x”

19. Which test value for 1 to 50 is invalid?

A. 75
B. 1
C. 50
D. 25

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

20. The old system stops and the new one starts the same day:

A. parallel changeover
B. direct changeover
C. phased changeover
D. pilot changeover

21. Bringing in a new system one part at a time is

A. phased changeover
B. adaptive maintenance
C. direct changeover
D. parallel changeover

22. Adding SMS reminders that users asked for is

A. perfective maintenance
B. unit testing
C. corrective maintenance
D. adaptive maintenance

23. Which life cycle is best when requirements keep changing?

A. manual
B. waterfall
C. iterative incremental
D. direct

24. Running a system on remote servers reached through the internet is

A. a manual system
B. document review
C. pilot changeover
D. cloud deployment

25. Checking that one student cannot see another student’s records is

A. security testing
B. unit testing of the fine function
C. perfective maintenance
D. questionnaire

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Paper II – Structured questions

1. Systems and their components. A school canteen takes orders on a tablet, prepares the food and prints a token for each student. *(6 marks)*

(i) Define a system. *(1 marks)*
(ii) Identify the input, process and output of the canteen system. *(3 marks)*
(iii) Give one example of feedback and one of control in this system. *(2 marks)*

2. Data, information and decisions. *(7 marks)*

(i) Distinguish between data and information with an example. *(2 marks)*
(ii) List three qualities of good information. *(3 marks)*
(iii) Explain how the O/L results system helps one decision. *(2 marks)*

3. Data flow diagram. Study the library DFD. *(6 marks)*

(i) Name the four DFD symbols. *(2 marks)*
(ii) How many processes and data stores are in the diagram? Name them. *(3 marks)*
(iii) Which data flow goes into “1 Issue book” from the Member? *(1 marks)*

4. SDLC phases and requirements. A school wants a library management system. *(9 marks)*

(i) List the six SDLC phases in order. *(3 marks)*
(ii) Name two types of feasibility and give a question for each. *(2 marks)*
(iii) Give two fact-finding methods with one advantage each. *(4 marks)*

5. Testing. The “number of books borrowed” field accepts 0 to 3. *(7 marks)*

(i) Give normal, boundary and invalid test data for this field. *(3 marks)*
(ii) Name the four levels of testing in order. *(2 marks)*
(iii) Who carries out user acceptance testing and why? *(2 marks)*

6. Deployment and maintenance. A bank with 50 branches is moving to a new system. *(7 marks)*

(i) Describe pilot changeover and say why it suits the bank. *(3 marks)*
(ii) Give one disadvantage of parallel changeover. *(1 marks)*
(iii) Name the type of maintenance: (a) fixing a wrong interest calculation (b) updating for a new tax rule (c) adding a mobile app. *(3 marks)*

7. Life cycle models and 2026 practice. *(7 marks)*

(i) Give two differences between the waterfall and iterative incremental life cycles. *(4 marks)*
(ii) Give two rules for using AI coding assistants responsibly. *(2 marks)*
(iii) Name the Sri Lankan law the system must follow for personal data. *(1 marks)*

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Exam tips

- System = parts working together for a goal.
- Input → process → output; plus storage, feedback, control.
- Data = raw facts; information = processed data.
- Good information: accurate, complete, timely, relevant.
- DFD: entity, process, data store, named data flow.
- SDLC order: requirements, design, implementation, testing, deployment, maintenance.
- Fact finding: interview, questionnaire, observation, document review.
- Testing: unit → integration → system → user acceptance.
- Test data: normal, boundary (edges), invalid.
- Changeover: direct, parallel (safest), phased, pilot.
- Maintenance: corrective, adaptive, perfective.
- Waterfall once in order; iterative in repeated increments.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Answers and explanations

Paper I

1. **B** – Definition.
2. **C** – Data in.
3. **D** – Information out.
4. **B** – Output used to adjust.
5. **A** – Data.
6. **C** – Processed and meaningful.
7. **A** – Accurate.
8. **D** – Computers, software, training.
9. **B** – Store.
10. **C** – Entity.
11. **D** – Six.
12. **A** – Plan, build, test.
13. **C** – Maintenance.
14. **B** – Time.
15. **C** – Documents.
16. **D** – User interface.
17. **D** – Modules together.
18. **B** – The edges of the range.
19. **A** – Outside the range.
20. **B** – Direct.
21. **A** – Phased.
22. **A** – Improvement.
23. **C** – Changes go into the next cycle.
24. **D** – Cloud.
25. **A** – Privacy (PDPA 2022).

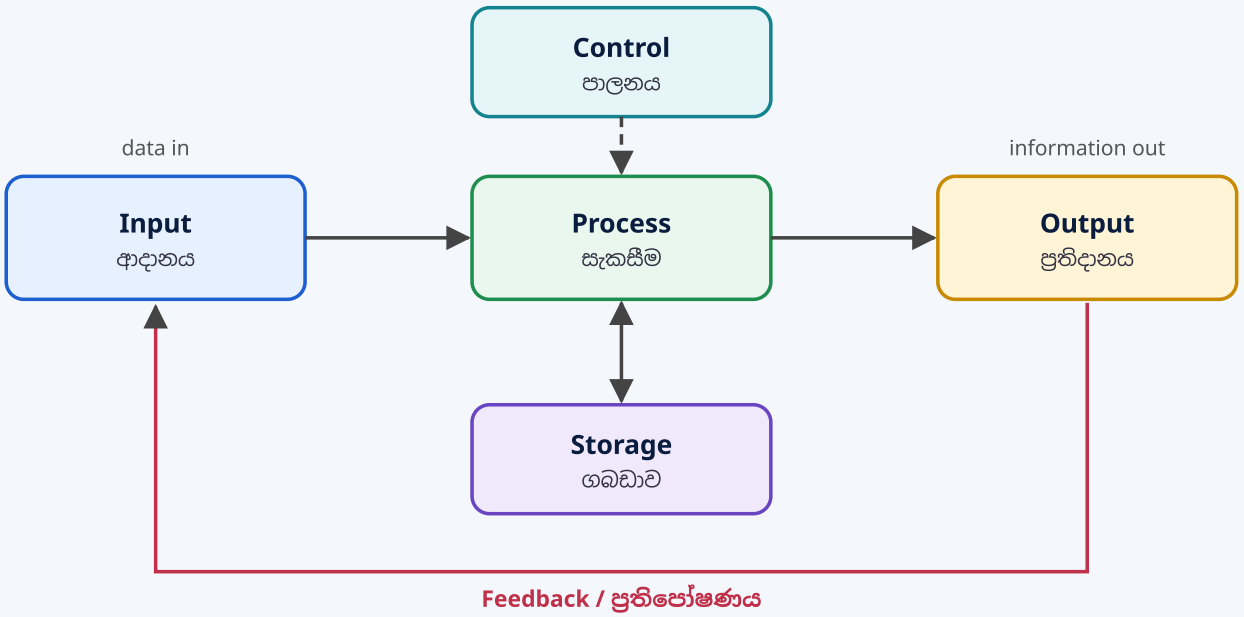
© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Paper II – model answers and marking points

1. *(6 marks)*

(i) (1 marks)
A set of parts that work together to reach a goal (1).

(ii) (3 marks)
Input – the order (items, quantity) (1); process – calculate the price, send to the kitchen (1); output – the token / bill (1).



Input, process, output with storage, control and feedback.

(iii) (2 marks)
Feedback – sales report shows rice runs out, so more is cooked (1). Control – orders only before 10.30 a.m. / limit per student (1).

🎯 Examiner tip: name the component and give an example from the question, not a general one.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

2. *(7 marks)*

(i) (2 marks)
Data – raw facts, e.g. marks 72, 45, 88 (1); information – processed data, e.g. “average 68.3 – pass” (1).

(ii) (3 marks)
Accurate, complete, timely, relevant, easy to understand, cost-effective (any three, 1 each).

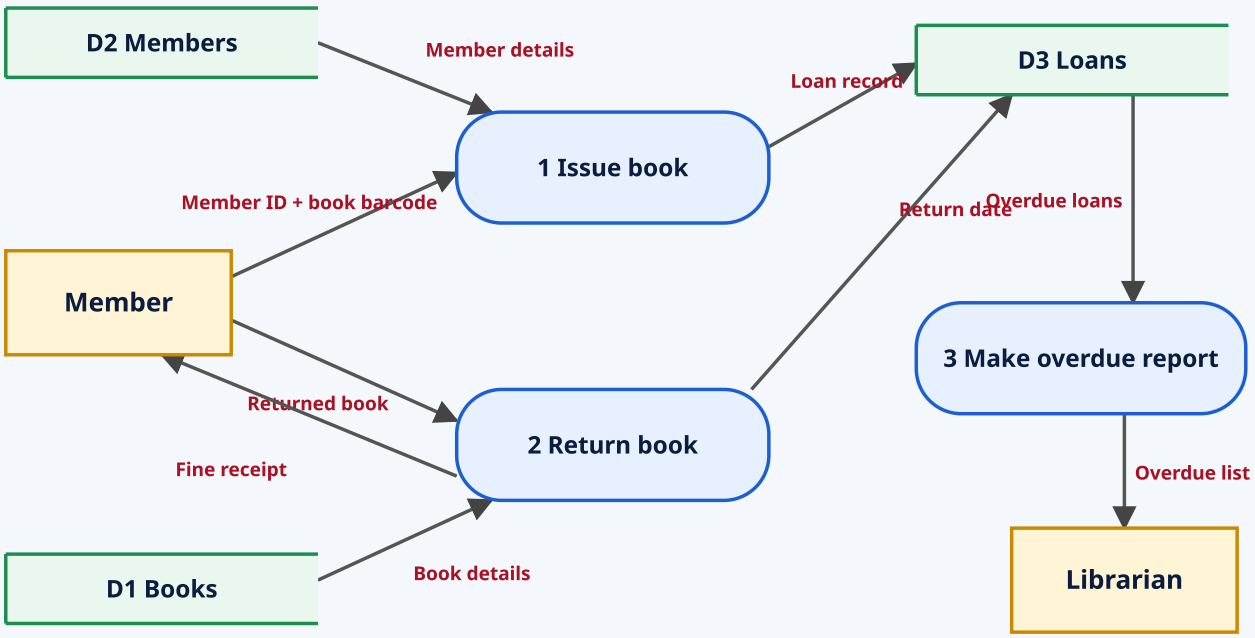
(iii) (2 marks)
Schools use the results to decide which A/L streams a student can enter / to plan A/L classes (2).

🎯 Examiner tip: information must have meaning – say what it tells the user.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

3. *(6 marks)*

(i) (2 marks)
External entity, process, data store, data flow (½ each).



Rectangle = external entity · rounded box = process · open box = data store · arrow = data flow

Library data flow diagram.

(ii) (3 marks)
3 processes – Issue book, Return book, Make overdue report (1½); 3 data stores – Books, Members, Loans (1½).

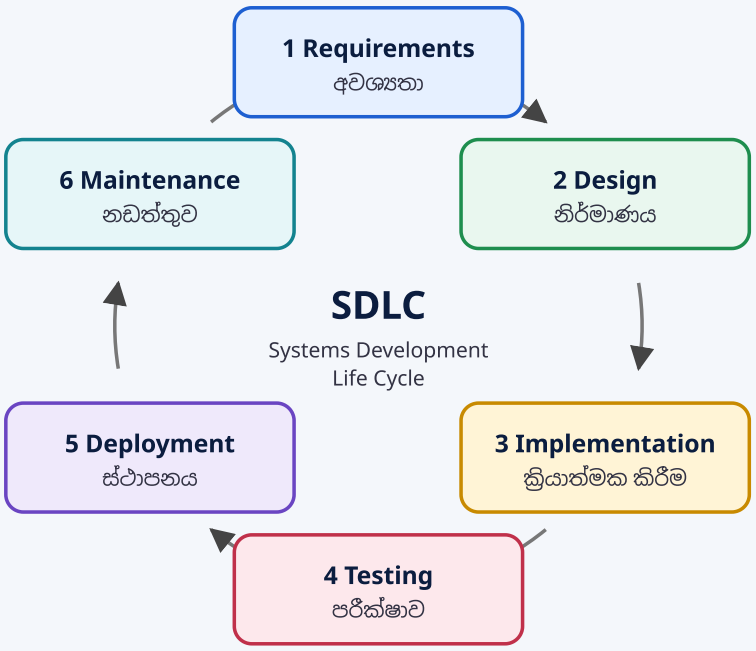
(iii) (1 marks)
Member ID + book barcode (1).

🎯 Examiner tip: every arrow in a DFD must carry a name.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

4. *(9 marks)*

(i) (3 marks)
Requirements identification, design, implementation, testing, deployment, maintenance (½ each).



The six SDLC phases.

(ii) (2 marks)
Economic – is the benefit worth the cost? (1) Technical – do we have the computers and skills? (1)

(iii) (4 marks)
Interview – detailed answers (2); questionnaire – many people quickly (2). (Observation / document review accepted.)

🎯 Examiner tip: write the phases in the correct order – order earns the marks.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

5. *(7 marks)*

(i) (3 marks)
Normal 1 or 2 (1); boundary 0 and 3 (1); invalid 4, −1 or “two” (1).

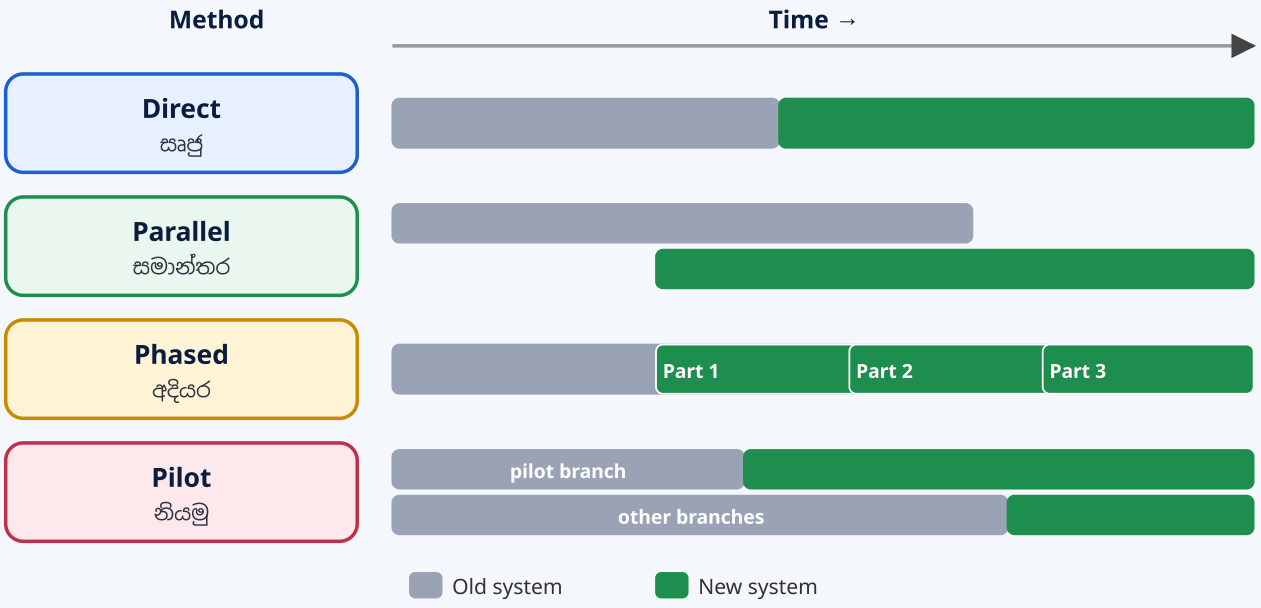
(ii) (2 marks)
Unit, integration, system, user acceptance (½ each).

(iii) (2 marks)
Real users, e.g. the librarian (1), to check the system meets their needs before it goes live (1).

🎯 Examiner tip: boundary values are the exact first and last valid values.

6. *(7 marks)*

(i) (3 marks)
New system tried in one branch first, then all branches (2); problems are found with little risk before 49 other branches use it (1).



Changeover methods timeline.

(ii) (1 marks)
Double work and cost – staff enter data twice (1).

(iii) (3 marks)
(a) corrective (b) adaptive (c) perfective (1 each).

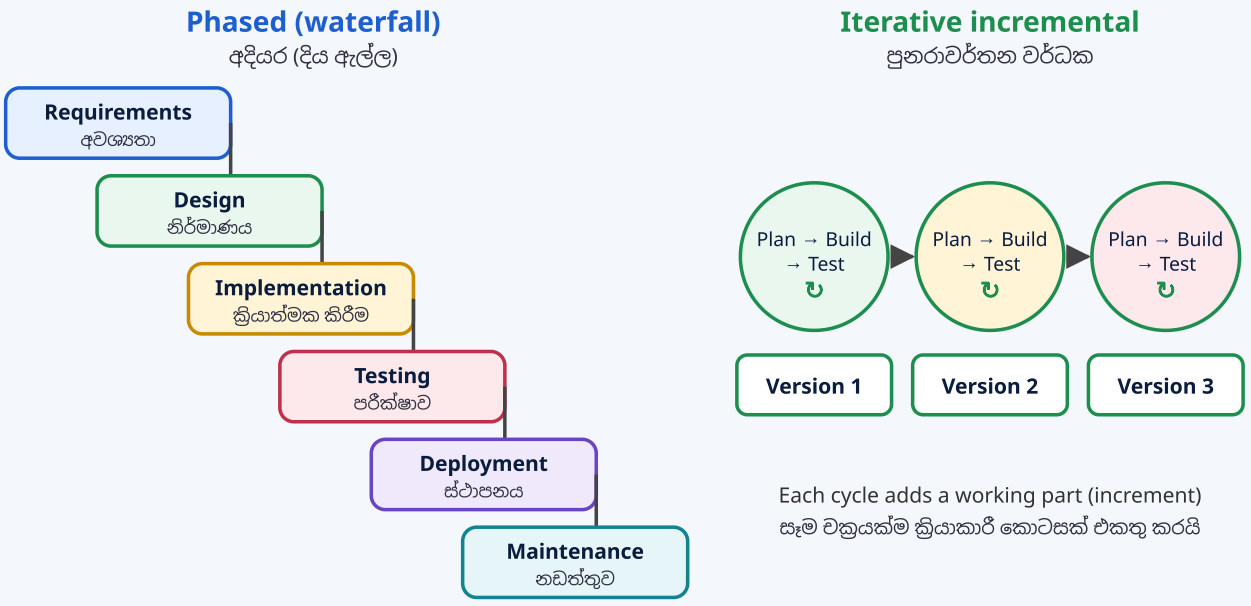
🎯 Examiner tip: corrective = fix, adaptive = new environment, perfective = improve.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

7. *(7 marks)*

(i) (4 marks)

Waterfall – phases once in order; iterative – repeated cycles (2). Waterfall – working system only at the end; iterative – working version after each increment (2).



Waterfall and iterative incremental.

(ii) (2 marks)

Understand and test every line (1); never paste personal data into the tool (1).

(iii) (1 marks)

Personal Data Protection Act No. 9 of 2022 (1).

🎯 Examiner tip: in comparisons, write both sides of each point.

© 2026 schoolict.net (Ruwan Mangala Suraweera). All rights reserved.