



UCSC

University of Colombo, Sri Lanka

University of Colombo School of Computing



**DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY
(EXTERNAL)**

Academic Year 2025 — 3rd Year Examination — Semester 6

EN6106 — Emerging Topics in Information Technology

Multiple Choice Question Paper

(1 Hour)

Important Instructions

- The duration of the paper is **1 Hour**.
- The medium of instructions and questions is English.
- This paper has **20 MCQ questions** on **5 pages**. Answer **all** questions.
- Each question will have **5 (five)** choices with **ONE OR MORE** correct answers.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark given for a question will vary from -1 (All the incorrect choices are marked & no correct choices are marked) to +1 (All the correct choices are marked & no incorrect choices are marked). However, **the minimum mark per question would be zero**.
- Answers should be marked on the **special answer sheet** provided.
- Note that questions appear on both sides of the paper. If a page or part of a page is not printed, please inform the supervisor/invigilator immediately.
- Mark the correct choices on the question paper first and then transfer them to the given answer sheet which will be machine marked. **Please completely read and follow the instructions given on the other side of the answer sheet before you shade your correct choices.**
- Any electronic device capable of storing and retrieving text, including electronic dictionaries, smartwatches, and mobile phones, is not allowed.
- Calculators are **not** allowed.
- *All Rights Reserved*. This question paper can NOT be used without proper permission from the University of Colombo School of Computing.

1) What is/are misconception(s) about microservices?

- (a) Independent deployment of services.
- (b) “Micro” always means small code size.
- (c) Used only in Agile Projects.
- (d) Easy to scale horizontally
- (e) Decentralized governance.

2) What is/are the requirement(s) for good service design?

- (a) Align with business capabilities
- (b) Random grouping
- (c) Clear service boundaries
- (d) Random APIs
- (e) Random services

3) What is/are communication mechanism(s) in monolithic architecture?

- (a) Function calls
- (b) Method invocations
- (c) API gateway
- (d) Message queue
- (e) REST APIs

4) What is/are the principle(s) of “smart endpoints and dumb pipes”?

- (a) Logic in services
- (b) Simple transport layer
- (c) Centralized intelligence
- (d) ESB-heavy architecture
- (e) Thick middleware

5) Select characteristic(s) of OAuth2.

- (a) Full user data inside token
- (b) Stateless payload
- (c) Public encryption
- (d) Access tokens
- (e) By-reference tokens

6) Identify the step(s) of data workflow.

- (a) Compression
- (b) Encoding
- (c) Data cleaning
- (d) Modeling
- (e) Evaluation

7) What is/are the function(s) of data engineering?

- (a) Data Pipeline design
- (b) Data Rendering
- (c) Data Referencing
- (d) Data Execution
- (e) Data storage

8) Identify the role(s) of data standardization.

- (a) Uniform data format
- (b) Consistent measurement units
- (c) Add random data
- (d) Increase inconsistency
- (e) Compress datasets

9) Artificial Intelligence includes the following function(s):

- (a) Simulation of human intelligence
- (b) Only database management
- (c) Machines performing intelligent tasks
- (d) File storage systems
- (e) Manual computation

10) Which of the following statement(s) best describe expert systems?

- (a) Rule-based reasoning
- (b) Use of expert knowledge
- (c) Random outputs
- (d) No decision-making
- (e) No input required

11) Which statement(s) best explain(s) the relationship between human intelligence and machine intelligence?

- (a) Machines outperform humans in speed and computation
- (b) Humans outperform machines in emotional and social reasoning
- (c) Machines possess full human cognition
- (d) Humans process faster than machines
- (e) Machines possess natural emotions

12) What implication(s) arise from teaching machines to mimic human intelligence?

- (a) Ability to automate complex decision-making
- (b) Elimination of all human involvement
- (c) Dependence on training data quality
- (d) Replacement of rule-based algorithms
- (e) Removal of uncertainty

13) What conclusion(s) can be drawn about the Turing paradigm?

- (a) Requires machines to be self-aware
- (b) Measures placebo effects of humans
- (c) Turing test is implemented using the theory of social conformity
- (d) Focuses on behavioral equivalence
- (e) Emphasizes perception of intelligence

14) Which reasoning(s) explain(s) the importance of clusters in networks?

- (a) Grouping similar nodes
- (b) Identifying communities
- (c) Random grouping from the main centroid node
- (d) Perform CRUD operations when the centroid is equal to one
- (e) Reducing nodes when the centroid is equals to NULL

15) What conclusion(s) can be drawn from high degree centrality?

- (a) Node has many connections
- (b) Potential influence in network
- (c) Used adjacency list representation for implementation
- (d) Used heap data structure for implementation
- (e) Used B+ tree data structure for implementation

16) What limitation(s) is/are associated with survey-based Social Network Analysis (SNA) data?

- (a) Recall bias
- (b) High accuracy always
- (c) Social desirability bias
- (d) Real-time data capture
- (e) Complete objectivity

17) What conclusion(s) can be drawn about chain of custody?

- (a) Deletes data
- (b) Removes evidence
- (c) Ignores ownership
- (d) Ensures admissibility
- (e) Documents evidence handling

18) Which inference(s) is/are drawn about examination phase?

- (a) Store backups
- (b) Collect data
- (c) Identify relevant evidence
- (d) Present findings
- (e) Detect patterns

19) What property(ies) define(s) exculpatory evidence?

- (a) Proves guilt
- (b) Removes data
- (c) Supports innocence
- (d) Increases suspicion
- (e) Contradicts claims

20) What implication(s) arise(s) from poor forensic analysis?

- (a) Reduces hardware dependency
- (b) Improved evidence
- (c) Incorrect conclusions
- (d) Supports legal proceedings
- (e) Legal failure
