

## Section I

1. Which of the following is **not** a system development approach?
  - (A) Waterfall
  - (B) Customisation
  - (C) Pilot
  - (D) Prototyping
2. What is the purpose of a requirements report?
  - (A) Attempt to solve the problem
  - (B) Outline solutions
  - (C) Defines nature of the problem
  - (D) Description of capabilities of new system
3. What is the OSI layer 4?
  - (A) Transport
  - (B) Session
  - (C) Data Link
  - (D) Network
4. Which of the following is an originator field?
  - (A) Date:
  - (B) CC:
  - (C) To:
  - (D) Message I.D:
5. A TCP data packet is called a \_\_\_\_\_.
  - (A) Datagram
  - (B) Segment
  - (C) Trailer
  - (D) Meta tag
6. Which of the following is NOT a backup procedure for transaction systems?
  - (A) GFS
  - (B) Towers of Hanoi
  - (C) Round Robin
  - (D) Checksums
7. What does RELE do?
  - (A) Compresses file size with minimal loss of perceived image quality
  - (B) Looks for repeating patterns in binary sequences
  - (C) Describes how each character will be rendered when displayed
  - (D) Enables vector to be used online
8. Which of the following is **not** an example of Batch Transaction Processing Systems?
  - (A) Check Clearance

- (B) Credit Card Transactions
- (C) Reservation System
- (D) Bill Generation

9. Which of the following are all project management tools?
- (A) Gantt Charts, Communication plans, Funding management
  - (B) Journals and Diaries, Gantt Charts, Volume Data
  - (C) Schema, DBMS, Journals and Diaries
  - (D) Search Engines, Schemas, Funding Management

10. North Sydney Girls decided to install smart boards in classrooms to replace whiteboards and blackboards. They decided to choose 1 out of 2 implementation methods:

<i>Method 1</i>	<i>Method 2</i>
Trialling the system in one department. If successful, implement the smart boards in all classrooms in all departments	Use both smart boards and white boards in all classrooms for a while, then start to remove the white boards.

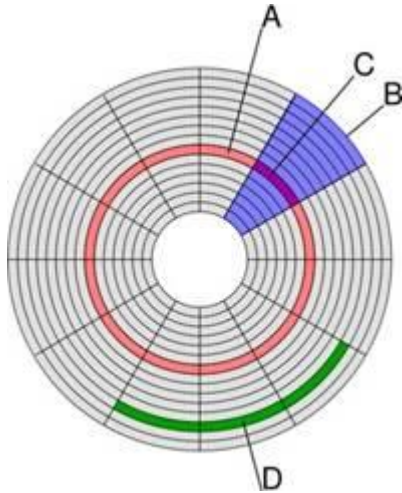
Which implementation methods are methods 1 and 2 respectively?

- (A) Parallel and phased
  - (B) Pilot and phased
  - (C) Phased and parallel
  - (D) Pilot and parallel
11. The Pirate Bay is a website from which people can download pirated versions of software. Which social and ethical issue is this a violation of?
- (A) Privacy
  - (B) Power and Control
  - (C) Copyright
  - (D) Validity of Data
12. An advantage of manual transaction processing systems is:
- (A) Less repetitive work for participants
  - (B) Quick response to changing requirements
  - (C) Enforces the sequence and rules for each transaction
  - (D) System easily grows as transaction processing needs grow
13. ACID is an acronym for
- (A) Atomicity, consistency, isolation, durability
  - (B) Atomicity, consistency, isolation, durability
  - (C) Alternate, congruency, inconsistency, durability
  - (D) Atomicity, conservation, isolation, durability

14. Which of the following is **not** a stage of the SDLC?

- (A) Designing
- (B) Implementing
- (C) Planning
- (D) Conversion

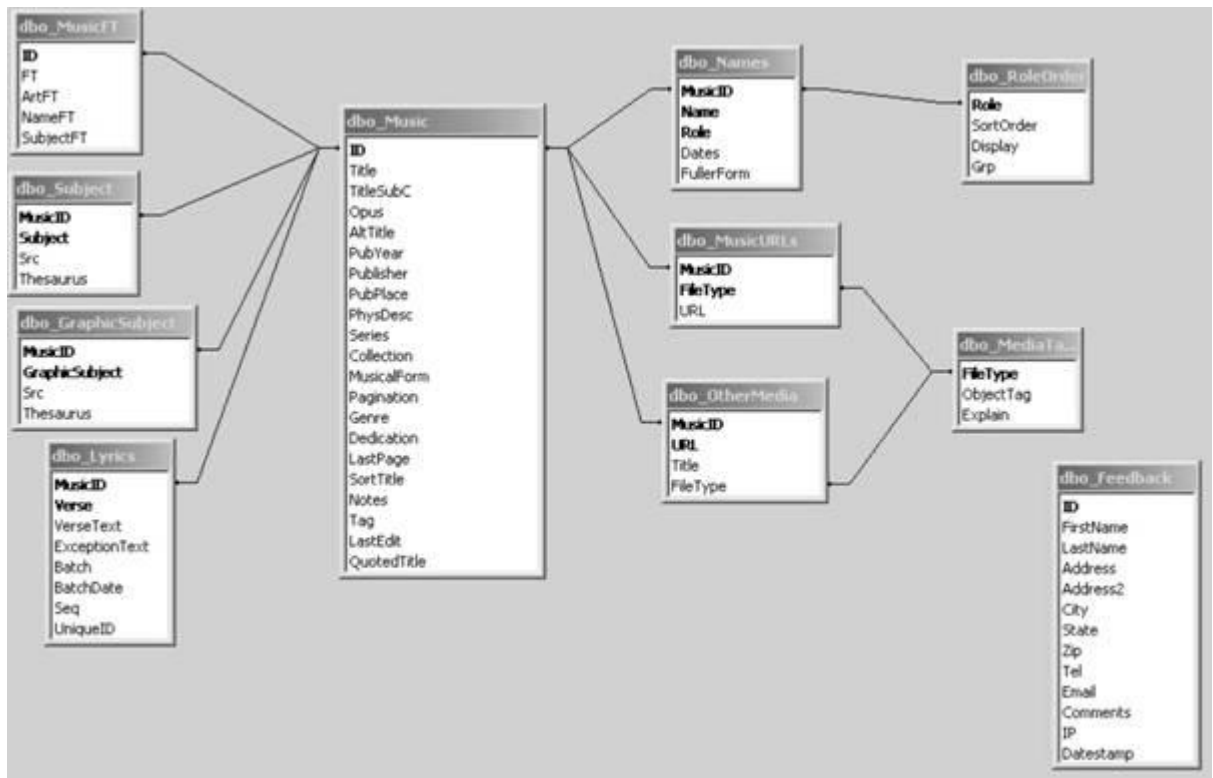
15.



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Identify the correct order of terms used to refer to the letters (in alphabetical order).

- (A) Cluster, Track, Sector, Sector Track
  - (B) Track, Sector Track, Sector, Cluster
  - (C) Track, Sector Track, Cluster, Sector
  - (D) Cluster, Track, Sector Track, Sector
16. Which of the following accurately describes an aspect of a Fragmented Distributed Database System?
- (A) The downloads copies of the data and stores the data within the local database.
  - (B) A query including data from a remote location always requires physical retrieval from the remote server.
  - (C) One database is designated as master and all the others as recipients.
  - (D) All local databases hold copies of all the data all the time.
17. What is this diagram?



- (A) System Flowchart
- (B) Dataflow Diagram
- (C) Entity Relationship Diagram
- (D) Schema

18. Which of the following is **not** a bias which can occur during collection?

- (A) Collection of incomplete data.
- (B) Not surveying a sample of the population.
- (C) Inaccuracy of data.
- (D) Not taking into account the perceptions of those whose data is being used.

19. Which of the following is **not** a property of .gif animation files?

- (A) Has key frames
- (B) No sound
- (C) Can create a transparency
- (D) Comparatively small file size

20. Which of the following is an advantage of LCD screens?

- (A) The high screen refresh rate
- (B) Does not need its own light source
- (C) Can have multiple screen resolutions
- (D) Less eyestrain

## Section II

### 21. Communication systems(12marks)

deviantART is an online artist community where artists can register accounts and communicate with their fellow artists, designers and art appreciators. Once registered, the artist can post images, videos and animations into their galleries, comment on each other's works, update journals and send private notes, favourite works and watch artists.

- a. Discuss the following social and ethical issues that are related to the use of this site. (6 marks)
  - Copyright
  - Privacy
  - Access
- b. State and describe TWO types of data that are entered into the site by the registered artists. (4marks)
- c. Once the artists register on deviantART they become direct users of the site. Explain how they become the participants of the system. (2 marks)

### 22. Project management (12 marks)

Square Enix is a video game production company. The company is divided into different branches across different countries. When Autodesk produced a new version of Maya the company had to update their system with the software.

- a. State and contrast TWO methods of conversion that the company can use. (3marks)
- b. Compare TWO different training techniques for the participants to learn about the new software. (3marks)
- c. Draw a dataflow diagram to illustrate the processes that would be taken for updating the software. (6 marks)

### 23. Information processes and technology (12 marks)

Shueisha is a comic publishing company that publishes weekly and monthly magazines with new chapters of its serialised comics. The author and artist draw up a storyboard, meet with the editor to make adjustments, then draw up the manuscript which they hand to the editor to give to the editor in chief for printing.

- a. Name and explain the processes involved in the publication of a new issue of a weekly magazine. (7 marks)
- b. The manuscript of the comic pages is traditionally draw so they are scanned to be printed. When manuscript is scanned they are then stored by the company. What are at least TWO social and ethical issues in regard to backup? (2 marks)
- c. After the pages are scanned and are processed to be printed, should the images be stored as vector or bitmap? Justify your answer. (3marks)

### 24. Information systems and databases (12 marks)

Rikkai Dai High School has an elite tennis team with 8 members. The captain told the vice captain to create a relational database to record the scores of each match they enter. It would have information on the members, the positions allocated, the date of the match, the opponents and the scores.

- a. Draw a schema for your proposed database. (5 marks)

- b. Name and describe TWO ways of storing the database (hardware) and recommend ONE of them, explaining why you would recommend it over the other. (4 marks)
- c. Draw a suitable form for entering the data. (3marks)

## Section III

25. Multimedia Systems (10 marks)

1. (i) Compare and contrast CRT and LCD monitors. (2 marks)

(ii) Explain how speakers work. (2 marks)

2. (i) Name, describe and compare the two font types. (3 marks)

(ii) List the uses of multimedia systems and clearly describe ONE of them. (3 marks)

26. Transaction processing systems (10 marks)

27. List and briefly describe three data integrity issues related to Transaction Processing Systems (4 marks)

28. (i) Name and describe an emerging trend that is used in transaction processing systems. (2 marks)

(ii) Explain how a batch transaction processing system is used. (4 marks)