Cambridge International AS & A Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

INFORMATION TECHNOLOGY **9626/33**

Paper 3 Advanced Theory **May/June 2021**

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use an HB pencil for any diagrams, graphs or rough working.
- Calculators must **not** be used in this paper.

INFORMATION

- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **16** pages. Any blank pages are indicated.

1 An Information Technology (IT) Manager is considering storing company data in the cloud.

(a) Explain what is meant by storing data in the cloud.

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(b) Explain why the IT Manager could be worried about storing data in the cloud.

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2 Satellite communication systems can be used to provide internet access to users in areas of the world where other methods of providing internet access are not possible.

Describe how satellite communication systems provide internet access to users.

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3   Discuss the advantages and disadvantages of web-based project management software.

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4 Fig. 4.1 shows a Gantt chart.

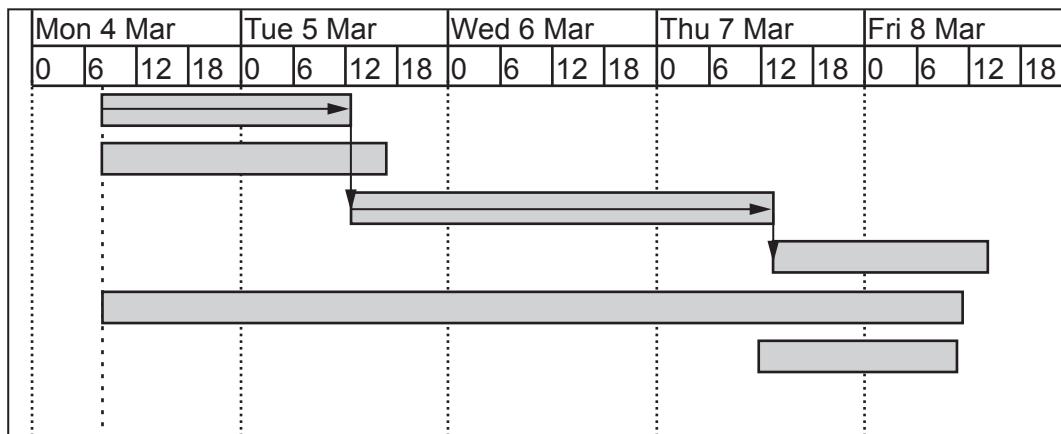**Fig. 4.1**

(a) Describe **four** components of this Gantt chart.

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(b) Describe how a Gantt chart could show overdue tasks.

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5   A manager of a library is considering introducing an updated computer system for lending out books. Library users will be asked to complete a questionnaire about the current system.

Evaluate, by weighing up the advantages and disadvantages, the use of questionnaires for gathering information in this scenario.

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6 The introduction of 5G cellular communication systems will provide increased bandwidth for users.

(a) 5G cellular communication systems will enable video delivery to users to be more reliable.

Describe **two** other improvements that 5G will be able to provide.

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(b) Describe **two** drawbacks of the introduction of 5G cellular communication systems.

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7   A hospital is to replace its database management system (DBMS) for storing patient records with a new system.

Analyse the effectiveness of the phased implementation method to install the new DBMS.

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8 Describe how a blog enables social networking to take place.

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9 A software company uses Rapid Application Development (RAD) to create its products.

(a) Describe the stages involved in the RAD process.

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(b) Describe reasons why the company is using RAD instead of a more traditional waterfall method of software development.

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10 Jasmine is using JavaScript on her web pages to provide interactivity. She has encountered some runtime errors during the testing of her JavaScript code.

She has written some code including `window.onerror = function (msg, url, line)`

The `onerror()` event handler will trap errors.

Describe how this can help Jasmine locate the mistakes in the rest of her code.

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11 Hubs and switches are networking devices.

Compare and contrast how these devices carry out their roles in a network.

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12 The directors of a company are trying to protect the company's data.

Explain the measures that could be taken by the company to help protect the network from a data breach.

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13 John wants to know how a Global Positioning System (GPS) works. He currently thinks that a GPS satellite calculates the position of a car and sends a signal telling the car what its position is.

John discovers that this is incorrect.

Explain how a GPS actually works.

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