OCR
Oxford Cambridge and RSA

Wednesday 8 January 2020 – Morning

Level 3 Cambridge Technical in IT

05838/05839/05840/05841/05842/05877

Unit 1: Fundamentals of IT

Time allowed: 1 hour 30 minutes plus your additional time allowance

You must have:
a calculator

Modified Enlarged 18 pt

Please write clearly in black ink.

Centre number					

Candidate number				

First name(s) _____

Last name _____

Date of birth	D	D	M	M	Y	Y	Y	Y

INSTRUCTIONS

Use black ink. You can use an HB pencil, but only for graphs and diagrams.

Write your answer to each question in the space provided. If you need extra space use the lined page(s) at the end of this booklet. The question numbers must be clearly shown.

Answer ALL the questions.

INFORMATION

The total mark for this paper is 80.

The marks for each question are shown in brackets [ ].

Quality of extended response will be assessed in questions marked with an asterisk (*).

ADVICE

Read each question carefully before you start your answer.

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SECTION A

Answer ALL the questions.

Put a tick (✓) in the box next to the ONE correct answer for each question.

1 Which wireless technology requires 'pairing'? [1]

(a) **Bluetooth** ☐

(b) **Laser** ☐

(c) **Microwave** ☐

(d) **Wifi** ☐

2 When using troubleshooting tools, a log can help to:

(a) **record hardware faults** ☐

(b) **fix hardware faults** ☐

(c) **quarantine hardware faults** ☐

(d) **remove hardware faults** ☐ **[1]**

3 **Which productivity software is the MOST appropriate for creating a mail merge letter template? [1]**

(a) Database ☐

(b) Email ☐

(c) Spreadsheet ☐

(d) Word processor ☐

4 **Which business software is MOST suitable for creating a safety poster? [1]**

(a) CAD ☐

(b) CAM ☐

(c) MIS ☐

(d) DTP ☐

5 **Which communication software enables several users to participate in a meeting over the phone? [1]**

(a) Messaging ☐

(b) Personal assistants ☐

(c) Teleconference ☐

(d) Video conference ☐

6 **Which software troubleshooting tool tests computer performance against an established norm? [1]**

(a) Baseline ☐

(b) Error logs ☐

(c) Event logs ☐

(d) Installable tools ☐

7 Which of the following is an error reporting protocol? [1]

(a) ICMP

(b) FTP

(c) HTTP

(d) SMTP

8 A business stores its data off-site on computers run by another company.

This is an example of:

(a) Client virtualisation

(b) Cloud virtualisation

(c) Server virtualisation

(d) Storage virtualisation [1]

9 Which business system allows managers to organise and manage departments? [1]

(a) Customer relationship management ☐

(b) Helpdesk ☐

(c) Management information system ☐

(d) Sales ordering process ☐

10 Which of the following methods allows participants to use body language to aid communication? [1]

(a) Emails ☐

(b) Group discussions ☐

(c) Telephone ☐

(d) Teleconferencing ☐

11 Which of the following does NOT demonstrate readiness to work through appearance? [1]

(a) Appropriate clothing ☐

(b) Can-do-attitude ☐

(c) Combed hair ☐

(d) Use of deodorant ☐

12 Which of the following is an ethical issue that businesses MUST consider? [1]

(a) Disaster planning ☐

(b) Health and Safety ☐

(c) Social engineering ☐

(d) Use of Information ☐

13 Which of the following is attempting to gain unauthorised access to a computer system? [1]

(a) Eavesdropping

(b) Hacking

(c) Interception

(d) Phishing

14 Which physical security method requires the user to have a key or a code? [1]

(a) Fingerprint scan

(b) Iris scan

(c) Lock

(d) RFID

15 **Which digital security method enables the system administrator to allow users access to different data or software on a system? [1]**

(a) **Anti-virus** ☐

(b) **Encryption** ☐

(c) **Permissions** ☐

(d) **Usernames & Passwords** ☐

SECTION B

Answer ALL the questions.

GalenTyrol Engine Solutions (GES) is an engineering company that creates prototype engines for its clients. GES uses Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) in the creation process.

The company is based on one site with three main buildings. The main office has 8 personal computers which are used for office administration. The design building has 6 personal computers which are used by the designers for CAD. The manufacturing building contains the CAM computers and machinery used by the company engineers.

16 (a) The CAD designers use a range of input devices to create their designs.

Identify and describe TWO input devices that could be used.

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2 _____

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[4]

(b) GES takes video footage of the prototype engines being manufactured to send to their clients.
The USB connections have been disabled on all company PCs.

Identify and describe ONE type of port that could be used to download the video footage from the camera.

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_____ [2]

(c) The personal computers in the design building have had graphics expansion cards installed.

Identify and describe ONE benefit to the designers of using the graphics expansion cards.

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_____ [2]

(d) **Designers order 3D printer filaments by communicating with the staff in the main office.**

Identify and describe ONE item of communications hardware required to communicate with main office using a tablet PC.

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_____

_____ **[2]**

(e) **The designers need to convert decimal numbers into hexadecimal.**

Convert the following decimal numbers into hexadecimal. You should show all your working.

134

_____

_____

244

_____

_____

[2]

17 (a) GES stores client, project and finance details for every prototype engine project.

Identify which productivity software would be best suited to doing this.

_____

_____ [1]

(b) The CAM PCs used by the engineers need regular maintenance. The GES IT technician uses utility software during the maintenance.

Identify TWO different types of utility software that could be used during the maintenance of the CAM PCs. Justify your choices.

Utility Software 1 _____

Justification _____

_____

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Utility Software 2 _____

Justification _____

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[6]

(c) One of the CAM PCs keeps unexpectedly rebooting.

Identify and describe TWO troubleshooting tools that could be used to locate the issue.

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[4]

18 (a) The GES main office currently has one server. This server is used for:

storing client and prototype engine design project data,

sending, receiving and archiving emails,

hosting the GES website,

connecting to shared printers.

It has been recommended that three servers are installed to maintain the functionality.

Identify and explain THREE types of server that could be installed. [9]

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(b)* **The GES business is expanding with an increased number of clients. An IT consultant has recommended that cloud storage is used to archive completed engine design projects.**

Using examples related to GES, explain the benefits and limitations of using cloud storage to archive completed engine design projects rather than updating their current hardware. [10]

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(c) The main office, design building and manufacturing building are connected in a network using ethernet cable and hubs.

Identify the type of network.

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_____ **[1]**

19 (a) A weekly meeting is held with the managers, designers and engineers. The meeting is held in the design building as there are barriers to communication in the manufacturing building.

Identify and describe TWO possible barriers to communication in the manufacturing building.

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[4]

(b) GES uses bespoke software during the design process. The bespoke software needs updating.

Identify the job role which would carry out this task.

_____

_____ [1]

(c) GES have decided to employ a new member of staff to update and maintain the software used in all departments. The new staff member should be a member of a professional body.

Identify and explain ONE benefit of being a member of a professional body.

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_____ [3]

(d) The new staff member should have industry certification.

Identify and describe ONE benefit to GES of the new staff member having industry certification.

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_____ [2]

20 (a)* GES need to maintain the confidentiality of their prototype engine designs. The current designs are stored on a physical server with the archived designs stored on the cloud.

Discuss the security measures that could be used to protect the engine designs stored on both the physical server and the cloud. [10]

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(b) Identify TWO direct threats to the security of GES client personal data held on a server in the main office.

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[2]

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional answer space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s) – for example, 16(a) or 17(b).

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Version 3