OCR
Oxford Cambridge and RSA

Level 3 Cambridge Technical in IT
05838/05839/05840/05841/05842/05877

Unit 1: Fundamentals of IT

Monday 9 January 2017 – Morning
Time allowed: 1 hour 30 minutes

You may use:
- a calculator

First Name		Last Name	
Centre Number		Candidate Number	
Date of Birth			

INSTRUCTIONS
- Use black ink. You may use an HB pencil for graphs and diagrams.
- Complete the boxes above with your name, centre number, candidate number and date of birth.
- Answer **all** the questions.
- Write your answer to each question in the space provided.
- Additional paper may be used if required but you must clearly show your candidate number, centre number and question number(s).

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 (*).
- This document consists of **20** pages.

FOR EXAMINER USE ONLY	
Question No	**Mark**
Section A: 1-15	/15
Section B: 16	/4
17	/6
18	/17
19	/7
20	/6
21	/8
22	/7
23	/10
Total	**/80**

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Answer **all** the questions.

Section A

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

1   Which of the following is a function of a modem?

    (a)   Authenticates user logons.

    (b)   Connects together two virtual networks.

    (c)   Controls the flow of data around a network.

    (d)   Converts digital signals into analogue signals.

[1]

2   RagNar Technologies uses cloud storage.

    Which of the following is **not** a characteristic of cloud storage?

    (a)   Can be off premises or on premises storage.

    (b)   Data storage is outsourced by RagNar Technologies.

    (c)   Data may travel over an increased number of networks.

    (d)   Increases energy consumption by RagNar Technologies.

[1]

3   Which of the following explains why an organisation may choose to use fibre optic technology rather than copper wire technology as part of its network?

    (a)   Fibre optic networks are cheaper to create.

    (b)   Fibre optic networks do not require network switches.

    (c)   Fibre optic signals cannot be affected by electromagnetic interference.

    (d)   Fibre optic signals suffer from more attenuation.

[1]

4 Which of the following is a function of a wireless access point?

(a) Converts data into binary format.

(b) Converts data into digital format.

(c) Provides a bridging capacity between wireless and wired networks.

(d) Scans for wired devices within range.

[1]

5 Convert the decimal number 187 to 8-bit binary.

(a) 1011 1011

(b) 1110 1100

(c) 1011 1101

(d) 0011 0010

[1]

6 Convert the hexadecimal number 77 to decimal.

(a) 119

(b) 7

(c) 112

(d) 191

[1]

7 Peter is a professional photographer. He uses virtual storage to store his photographs.

Which of the following **best** describes why he uses virtual storage for this purpose?

(a) A virtual storage system can be easier to back up than a traditional storage system.

(b) A virtual storage system does not require specialist software.

(c) A virtual storage system makes no use of multiple layers of virtualisation.

(d) A virtual storage system requires less technical understanding to set up than a traditional storage system.

[1]

8 Which of the following is **not** a feature of token ring technology?

(a) Empty frames are circulated on the LAN.

(b) Supports direct cable connections between two network interface cards.

(c) Tokens are 3 bytes in length.

(d) Requires additional software and hardware to allow direct cable connection.

[1]

9 Which of the following is **not** a function of the Sales Ordering Process (SOP)?

(a) Approval of the finance terms for an order.

(b) Initiation of the sales process.

(c) Obtaining all information about a sales order.

(d) Reviewing a sales order.

[1]

10 Which of the following is **not** an example of staying safe online?

    (a) Preventing web browsers from remembering login details. ☐

    (b) Withholding personal details from a chat room. ☐

    (c) Leaving security settings at default public level. ☐

    (d) Using a password that includes numbers, text and symbols when using online banking. ☐

[1]

11 Ever-Brook surgery has a Health and Safety policy that all staff must sign when they start working for the organisation.

Which of the following would **not** be included in a Health and Safety policy?

    (a) Advice on how to avoid injury when using computer equipment. ☐

    (b) Advice on how to maintain equipment. ☐

    (c) Advice on how to maintain fitness levels. ☐

    (d) Advice on who to contact with a question. ☐

[1]

12 Maggie has been told that she needs to update the antivirus software on her computer.

Which of the following **best** describes a computer virus?

    (a) An infected file. ☐

    (b) An attempt to steal data from a user's computer. ☐

    (c) An attempt to deny user access to a computer system. ☐

    (d) A self-replicating file that installs without the consent of the computer owner. ☐

[1]

13 Which of the following items are part of a hypervisor server system?

    (a) A guest machine running a series of virtual operating systems.

    (b) A host machine and a guest machine.

    (c) A host machine and a super-host machine.

    (d) A sub-host machine and a super-host machine.

[1]

14 QTE sends staff a monthly payslip by email. Which of the following reasons **best** describes why the payslip is encrypted?

    (a) So that the email cannot be intercepted.

    (b) So that the employee knows the email is genuine.

    (c) So that the payslip may not be read if intercepted.

    (d) So that the sender gets a read receipt when the email is opened.

[1]

15 Which of the following pieces of legislation applies to the safe disposal of electronic equipment?

    (a) The Computer Misuse Act (1990).

    (b) The Sale of Goods Act (1979).

    (c) Hazardous Waste (England and Wales) Regulations (2005).

    (d) The Waste Electrical and Electronic Equipment Regulations (2013).

[1]

Section B

Progress Gaming produces video games for smartphones, games consoles and personal computers. Customers can play games, individually or with a friend, on multiple devices using peer to peer technology.

Games are developed using an off the shelf programming package, with all storage being cloud based.

Progress Gaming has a web site that is used to purchase and download games. It also gives details on how customers can get technical support using instant messaging, email and telephone.

16 Progress Gaming uses a number of digital security measures to protect its infrastructure.

Explain why Progress Gaming would use the following digital security measures:

Firewall:

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Anti-spyware:

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[4]

Turn over

17 Progress Gaming uses cloud based storage to store all of its data.

Explain **two** advantages and **one** disadvantage of using cloud based storage.

Advantage 1 ....

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Advantage 2 ....

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Disadvantage ....

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[6]

18 Progress Gaming needs to hire new programmers to help develop its games.

    (a)* Discuss, using examples, key skills the new programmers should have.

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(b) Progress Gaming has decided to use a teleconference to interview new programmers.

Explain **two** disadvantages of using a teleconference to interview new programmers.

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[4]

(c) Progress Gaming wants the new programmers to be a member of a professional body.

Describe **one** benefit of new programmers being a member of a professional body.

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....**[3]**

Turn over

19 Programmers at Progress Gaming use a change management process throughout the development lifecycle.

Evaluate the use of a change management process at Progress Gaming.

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20 Progress Gaming uses a standard troubleshooting process. The steps of the process are listed below.

Place the steps in the most suitable order by writing the letter corresponding to the step in the column on the right. The first two have been completed for you.

A Define theory of possible cause		**E**
B Create plan of action		**C**
C Identify problem		
D Test theory		
E Start		
F Document results		
G End		
H Verify problem solved		

[6]

Turn over

21 Progress Gaming uses an off the shelf operating system for its servers and personal computers.

(a) Compare the use of an off the shelf operating system with an open source operating system.

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.... **[4]**

(b) Identify **one** other type of operating system and explain how Progress Gaming could use it.

Operating system type...

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How it could be used ....

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[4]

22 Smartphone games can be played on multiple devices using peer to peer technology.

   (a) Explain **two** reasons why peer to peer technology would be used.

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     2 ....

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     [4]

   (b) Identify and describe **one** other method that could be used to allow games to be played on multiple devices.

     Method ....

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     How it allows games to be played on multiple devices ....

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     [3]

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23* Explain why Progress Gaming would use both a database server and an application server.

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23* Explain why Progress Gaming would use both a database server and an application server......

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END OF QUESTION PAPER

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