# UNIVERSITY OF LONDON

# GOLDSMITHS COLLEGE

## Department of Computing

## B. Sc. Examination 2017

### IS50004A
### Use of Computers

Duration: **2 hours 15 minutes**

Date and time:

*This paper is in two parts: part A and part B. You should answer ALL questions from part A and TWO questions from part B. Part A carries 40 marks, and each question from part B carries 30 marks. The marks for each part of a question are indicated at the end of the part in [.] brackets.*

*There are 100 marks available on this paper.*

*Calculators are not permitted in this examination.*

**THIS PAPER MUST NOT BE REMOVED
FROM THE EXAMINATION ROOM**

# Part A
## Multiple choice

**Question 1**     This question has one correct answer

Which of the following decimal numbers is equivalent to the binary number 11001100?
(a) 126 (b) 204 (c) 222 (d) 188                                          [4]

**Question 2**     This question has one correct answer

Which of the following Operating systems is the newest?

(a) UNIX (b) Symbian (c) MS-DOS (d) CPM                                 [4]

**Question 3**     This question has **two** correct answers

Which of the following devices can be used as user intentional input function?

(a) microphone (b) printer (c) camera (d) external hard disk drive               [4]

**Question 4**     This question has one correct answer

Which of the following is not currently recognised as subject to copyright?

(a) A pop song (b) A music video (c) a web page (d) a company logo            [4]

**Question 5**     This question has one correct answer

Which input technique is most suitable for a user with severely impaired dexterity?
(a) mouse (b) keyboard (c) eye gaze tracker (d) touchscreen               [4]

**Question 6**     This question has **two** correct answers

Which of the following media would be described as time dependent?
(a) image (b) animation (c) audio (d) formatted text in the form of an email     [4]

**Question 7**     This question has **two** correct answers

Which of the following compression techniques is classified as lossless?
(a) FLAC (b) MP3 (c) JPG (d) ZIP                                       [4]

**Question 8**     This question has one correct answer

Which of the following is NOT the name of a layer in OSI 7 Layer network model?
(a) Session (b) Operating System (c) Application (d) Link               [4]

**Question 9**     This question has one correct answer

Which of these hexadecimal numbers is equivalent to the binary number 11001100?
(a) CC (b) 92 (c) D1 (d) 188                                         [4]

**Question 10**     This question has one correct answer

Which of the following games is classed as Augmented Reality?
(a) Tilt Brush (b) Super Hot (c) Civilisation (d) Pokemon Go              [4]

# Part B

ANSWER NO MORE THAN <u>TWO</u> OF THE FOLLOWING QUESTIONS

**Question 11**

Discuss, with specific examples, the following statement: Computer systems can become unusable because of poorly implemented hardware, operating systems and network functionality.                                                                              [30]

**Question 12**

As network capacity has increased, demand and usage have increased to match it. Discuss how data sampling affects the quality and user experience of music, and describe how compression affects the quality and bandwidth required to stream music.                                                                              [30]

**Question 13**

Please briefly describe the measures you would take when establishing a website selling children's toys to ensure compliance with Data Protection and Safeguarding legislature and best practice.                                                                              [30]

**Question 14**

(a) Which of the following languages can a Web Browser normally interpret? (a) HTML, (b) CSS, (c) PHP, (d) SQL (e) Javascript [6]

(b) Using FTP as an example, explain the essential difference between an internet Protocol and an internet Service [4]

(c) What is the function of the unlabelled box in the Web Server? [5]

(d) Please **reproduce** the block diagram below. Using arrows, show where the database is normally connected in the web server [5]

(e) Explain the essential purpose of the HTML language and HTTP protocol. [10]