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ST BENEDICT'S COLLEGE



SUBJECT	Information Technology	DATE	Nov 2016
GRADE	11	MARKS	150
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NAME	Memo	DURATION	2½ hours
CLASS			

COGNITIVE LEVELS			
LOW ORDER	45 %	MIDDLE ORDER	27 %
		HIGH ORDER	28 %

INSTRUCTIONS	
COMMENT	
TEACHER'S SIGNATURE	
PARENT'S SIGNATURE	

QUESTION 1**TERMINOLOGY****7 MARKS**

- 1.1 B
- 1.2. B
- 1.3 A
- 1.4 B
- 1.5 C
- 1.6 A
- 1.7 C

(7)

QUESTION 2**TERMINOLOGY****8 MARKS**

Provide definitions for the following terms – do not just break out the Acronyms

- 2.1 AUP (2)
Acceptable use policy✓ – outlines the rights and responsibilities of users✓ in a NW environment – including consequences for violating terms of policy.
- 2.2 DNS (2)
Domain Name System - Internet service that translates domain names✓ into IP addresses. ✓
- 2.3 Machine Cycle (2)
Steps taken by CPU to carry out instructions : ✓Fetch, decode, execute, transfer data back to memory✓
- 2.4 Firewall (2)
Hardware and/or software that monitors the traffic between a computer ✓and the internet to safeguard against breaches in security✓

QUESTION 3**HARDWARE AND SOFTWARE****31 MARKS**

- 3.1 HP Envy - Core i7✓ - newer technology - plus more cache. ✓ (2)
- 3.2.1 Provides faster data storage and access -✓ by storing an instance of programs and data routinely accessed by the processor. ✓ (2)
- 3.3.1 RAM is volatile ✓
ROM non-volatile✓
Contents of RAM constantly changing
ROM comes preloaded . (2)
- 3.3.2 Holds the BIOS - instructions for starting up computer. ✓ (1)
- 3.3.3 Only used at startup - will not affect performance✓ (1)
- 3.4 3D images require a lot of space. ✓Frees up use of RAM✓ (2)
- 3.5.1 It is inbuilt into the motherboard✓ (1)

- 3.5.2 Lan speed 10 mbps 100 mbps and 1000 mbps (gigabit) per sec ✓ (1)
- 3.5.3 Yes - limited to wireless connectivity may be slower ✓, assume bandwidth ✓
No - supports all wireless standards ✓, bluetooth ✓ (2)
- 3.6 Do not have facility to insert a SIM card. Would need to use a dongle. ✓ Not a cell device. ✓ (2)
- 3.7 Multiprocessing - tasks are divided between more than 1 CPU/core ✓
Multitasking - each CPU splits time between multiple tasks ✓
Multithreading - each program split into multiple threads (parts) which can then be processed simultaneously taking advantage of multiprocessing ✓
Hyper-threading 2 sets of registers on CPU. ✓ (4)
- 3.8 HDD ✓ as an overflow area when RAM too full. ✓ Pages of memory swapped to disk. ✓ (3)
- 3.9 Any device for 2 valid reasons relating to the device ✓ and justified ✓ to marketing manager job.
✓. E.g. marketing manager does posters – need fast cpu and graphics. (3)

QUESTION 4	SOFTWARE	7
4.1.1 Andoid, iOS, Windows OS ✓		(1)
4.1.2 Mobile operating systems also manage cellular and wireless network connectivity, ✓ as well as phone access. ✓		(2)
4.2 High level ✓ – language is easier for humans to read and understand OR machine independent. ✓		(2)
4.3 Interrupt is a signal sent to the CPU ✓ HW – sent from device such as keyboard SW – generated from a program eg if has encountered an error ✓		(2)

QUESTION 5	NETWORKS	26
5.1 Switch ✓ NIC ✓		(2)
5.2 UTP ✓ Fibre optic ✓		(2)
5.3 UTP ✓ Easy to install / ✓ set up Have a max range of 100m so within the limit		(2)
5.4 Router ✓ - provides connectivity to the internet links to your fibre or ADSL line ✓ ADSL / fibre - ✓ both provide a permanent connection. Fibre faster. ✓ Device used to connect different networks – internet is different from the LAN Can determine the best path for data packets 3G coms would not be sufficient.		(4)
5.5.1 Cable types : UTP, fibre, coaxial ✓ Speed 10/100 mbps and 1gbps ✓ Star topology		(2)

- 5.5.2 Carrier sense, - message sent when line clear. ✓ multiple access - used for collision detection.
 ✓ Message resent after a random time if a collision occurs (2)
- 5.5.3 Switches send point to point . No collisions. ✓ (1)
- 5.6.1 Provide wireless access to internet ✓ - typically in a public spaces ✓ (2)
- 5.6.2 Router or a wireless gateway ✓ Wireless access point ✓ (2)
- 5.6.3 WPA2 encryption ✓ - make it password protected ✓ With gateway can ensure users logon (2)
- 5.7 GPS technology - ✓ receives location from satellites - ✓ can communicate positions to UBER -
 ✓ Google maps can calculate distance and time - uber uses this for fare calculation. (3)
- 5.8 They are connecting to the UBER system using a third party service ✓ such as cell. ✓ (2)

QUESTION 6 E_COMMUNICATION AND SECURITY 26

- 6.1.1. Set of rules ✓ for transmitting data across a NW ✓ (2)
- 6.1.2 Http protocol defines how web pages transmitted across the web ✓
 Https - secure, encrypted transmission to protect data ✓. Recognised by padlock next to url.
 Https for secure data. ✓ (3)
- 6.1.3 Can personalise the experience more easily ✓
 Apps can make better use of mobile features - integrate with mobile tech eg gps ✓
 More secure ✓
 Better user experience
 Transfer less data - Faster access (3)
- 6.2 Phishing - emails luring to fake site to get info
 As so much of their business online must be very aware of risk and must guard against handing
 out info online
 Pretexting - as dealing with different people every day - guard against revealing personal details
 ANY of other methods names ✓, explained ✓ and prevention. ✓ (6)
- 6.3 Physical loss of data ✓ - damage to HW ✓ - use cloud based. ✓
 Cyber attack ✓ - firewalls ✓ - security SW ✓ (6)
- 6.4.1 Cookies are small files ✓ which are stored on a user's computer. ✓ They are designed to hold a
 modest amount of data specific to a particular client and website, and can be accessed either
 by the web server or the client computer (2)
- 6.4.2 for authenticating users, ✓ remembering user preferences and settings, ✓ determining the
 popularity of content, (2)

QUESTION 7 SOCIAL 19

- 7.1 Simulation of human decision making processes by a computer system that is programmed to
 react ✓ on the basis of input gained from sensors. ✓ In this scenario cars using gps technology

for route and cameras to record surroundings feeding back info to program ✓, other sensors detecting proximity of objects. ✓ Car speed and direction adapting to inputs.

Yes, if software malfunctions. ✓ (5)

- 7.2 Programmer : writes code to create software, normally part of a team, must be able to work with people – will need to interface with graphic designers, systems analysts, problem solving skills, technical programming skills.

Systems Analyst : interact with users, ✓ determine needs, ✓ designs solution, ✓ writes a spec for programmers ✓

Graphic Designer : designs the appearance of things : layout of website, user interface for application : company logo : branding

Security Consultant : tests, analyses the security requirements of a company. Designs/ recommends solution to meet requirements. Covers physical security, computer based security, access control, protection from hackers. (4)

- 7.3 Describes the ease with which people, goods, cultures are exchanged around the world. Enabled by technologies such as communication (2)

- 7.3.1 Has quickly managed to expand into other countries ✓ - travellers get used to experience in one city and have same experience when travel.

Can make use of developers all over the world ✓

Strong technology platform can be shared globally (2)

- 7.4 Limited public transport ✓, stricter drinking and driving laws ✓ (2)

QUESTION 8 SOFTWARE DEVELOPMENT

- 8.1.1 Encapsulation in Java is a mechanism of wrapping the data (variables) ✓ and code acting on the data (methods) together as a single unit. ✓ (2)

- 8.1.2 Fields private ✓, hide inner workings. ✓ (2)

import com.uber.sdk.android.rides.RideRequestButton;

- 8.2.1 To make use of classes that are defined in other packages ✓ (1)

- 8.2.2 Declare and instantiate a RideRequestButton object ✓ (1)

- 8.2.3 RideRequestButton ✓ (1)

- 8.2.4 RideRequestButton ✓ (1)

- 8.2.5 Constructor ✓ (1)

- 8.2.6 Can have different versions of the method ✓ - each must have a unique parameter list ✓ (2)

- 8.2.7 Typed - need to return a value of specified type ✓

Void - no data returned ✓ (2)

- 8.3 Drop down lists ✓ + explain ✓

Radio buttons ✓ + explain ✓

Prefill options

Check box (4)

8.4.1 Vehicle type ✓

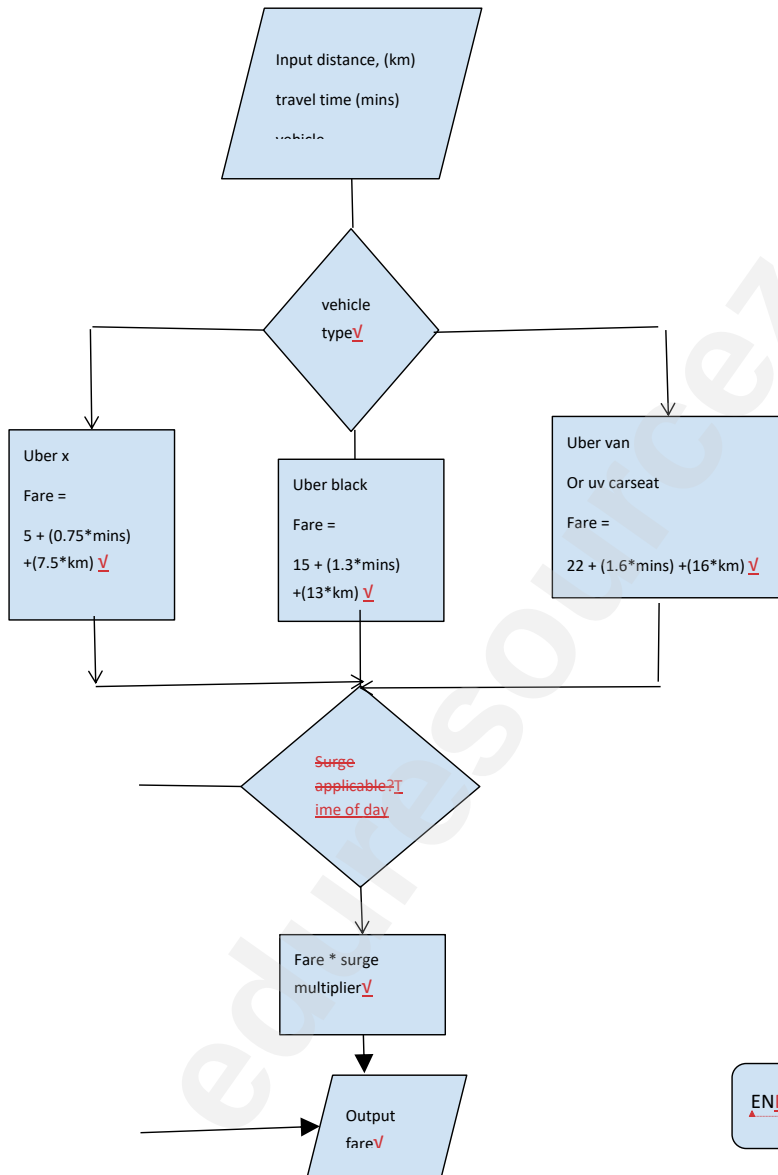
Start location/end location ✓

Estimated travel time ✓

Time of ride (peak or not) ✓

8.4.2

(4)



END

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- 8.5.1 Oracle, MySQL✓ (1)
 - 8.6.2 driverID✓ (1)
 - 8.6.3 Uniquely identify each record✓ (1)
 - 8.7 WHERE eliminates rows in table ✓HAVING eliminates row from an aggregate function. ✓Need a HAVING to remove rows from a COUNT. ✓ (3)
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