UNIVERSITI TUNKU ABDUL RAHMAN

ACADEMIC YEAR 2021/2022

OCTOBER 2021 TRIMESTER

FINAL ASSESSMENT

MPU32143 ENGLISH FOR INFORMATION TECHNOLOGY

WEDNESDAY, 8 DECEMBER 2021 TIME: 9:00 AM – 11:30 AM (2.5 HOURS)

BACHELOR OF COMPUTER SCIENCE (HONOURS)
BACHELOR OF INFORMATION TECHNOLOGY (HONOURS) COMPUTER ENGINEERING
BACHELOR OF INFORMATION TECHNOLOGY (HONOURS) COMMUNICATIONS AND NETWORKING
BACHELOR OF INFORMATION SYSTEMS (HONOURS) DIGITAL ECONOMY TECHNOLOGY
BACHELOR OF INFORMATION SYSTEMS (HONOURS) INFORMATION SYSTEMS ENGINEERING
BACHELOR OF INFORMATION SYSTEMS (HONOURS) BUSINESS INFORMATION SYSTEMS

Instructions to Candidates:

REMINDER: You are reminded to read and adhere to the Final Assessment Instructions to candidates that has been made available through the UTAR Portal before the commencement of Final Assessment (FA). The detailed instructions for this FA are as follows:

General

1. This Final Assessment (FA) is an Individual, time restricted assessment which consists of **THREE (3)** sections:

   SECTION A [TOTAL: 40 MARKS]
   Reading Comprehension
   Answer **ALL** questions.

   SECTION B [TOTAL: 30 MARKS]
   Report Writing
   Answer **THE** question.

   SECTION C [TOTAL: 30 MARKS]
   Interpretation of Graphical Data
   Answer **THE** question.

2. You are required to answer **ALL** questions, and submit the **ANSWER SCRIPT** by **11:30 AM, 8 DECEMBER 2021**.

3. During the period of 2.5 hours of this FA, the examiner(s) can be reached at
   a. Microsoft Teams
   b. Email: indiram@utar.edu.my

   You may use the above e-platform(s) to check with the examiner(s) if you need any clarification on this FA question paper.

4. Candidates are reminded that **Copy-and-Paste, Consultation, Discussion** and **Sharing of Answers** with others are **STRICTLY PROHIBITED** in this FA.

Answer Script File

5. Download the **Answer Script** file from WEBL entitled **MPU32143-Answer Script** and answer **ALL** questions in it.

6. The answer script **MUST** be a **Microsoft Word file** (doc or docx) [Compulsory for text-based submission to enable Turnitin Plagiarism Check] in A4 size format. Any answer script in PDF format will be automatically rejected. **Note: The file size must NOT exceed 30MB.**

7. Please check your Index Number generated by the Division of Examinations, Awards, and Scholarships (DEAS). You **MUST** name your answer script file using the following file name for submission:

   MPU32143_FA_[Programme Abbreviation]_[Your Index Number].

   For example, if you are from the degree programme IA, and your index number is A12345CBIAF, then your answer script should be named as **MPU32143_FA_IA_A12345CBIAF**.

Answer Script File Submission

8. Your answer script file has to be submitted to the following platform(s) before the due time/date.
   a. Attach your answer script on WBLE
   b. Send your answer script to MPU32143.FAS@utar.edu.my.

   Note: For the subject / title of your email, use the file name of your answer script, i.e.,
   MPU32143_FA_[Programme Abbreviation]_[Your Index Number]

9. Please make sure you submit the correct, complete and final version of your answer script and the same copy of answer script file is to be submitted to the above platform(s). When multiple answer script files are received, the examiner will randomly choose one for marking.

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Contents of Answer Script

10. Download and answer **ALL** the questions in the **MPU32143-Answer Script** (file: **PLEASE USE THIS ANSWER SCRIPT**).

11. The **first page** of your submission is the **Final Assessment Cover Page**. You **MUST** use the template given and fill in the following information
    a. Your Programme (Abbreviation)
    b. Your Index Number
    c. Your Name
    d. Your Student ID

12. The **second page** of your submission is the **Final Assessment Declaration Statement**. You **MUST** use the template given, and digitally sign on the form to indicate the authenticity of your submitted work is without plagiarism.

13. Type your answer below each question, **in the text box (SECTION A, SECTION B and SECTION C) provided**.

14. For answer scripts that have text-based answers only, all texts **MUST** be typed and recommended using **Times New Roman** characters with font size **12,** with **1.5 line spacing** and **justified alignment**.

15. Please include a page number on **each and every page** of your answer script. Ensure that each page of answer scripts is in sequence prior to online submission.

WARNING ON PLAGIARISM

16. Answer scripts shall be uploaded to Turnitin to check for the originality of submitted answers. In the case of suspected plagiarism, the evidence will be submitted to the Examination Disciplinary Committee of the University. Disciplinary action shall be taken against any candidate who is found to have plagiarized in the answer submitted. Hence, candidates are reminded to abide by all University Rules and Regulations and any instructions/guidelines relating to examinations/assessments.

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Name:
Student ID:
Index Number:
Programme:
Course Code:
Course Name:

Final Assessment Declaration Statement

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DECLARATION

I, _____(Name), Student ID. _____

hereby solemnly and fully declare and confirm that during my programme of study at Universiti Tunku Abdul Rahman, I shall abide and comply with all the rules, regulations and lawful instructions of Universiti Tunku Abdul Rahman and endeavour at all times to uphold the good name of the University.

I hereby declare that my submission for this Final Assessment is based on my original work, except for citations and quotations which have been duly acknowledged. I am fully aware that students who are suspected of violating this pledge are liable to be referred to the Disciplinary Committee of the University.

Programme: _____

(Digital) Signature: _____

Student's I.C. No: _____

Date of Submission: _____

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SECTION A [TOTAL: 40 MARKS]

READING COMPREHENSION

Read carefully the text below and answer **ALL** the following questions.

What's the Environmental Impact of Cryptocurrency?

by Nathan Reiff
August 26, 2021

1. Cryptocurrencies have come a long way from their relatively obscure origins. While the mainstream financial world once disdained digital currencies as tools for criminals and speculators, the industry has made significant progress in establishing itself as a legitimate and (potentially) world-changing space. Bitcoin (BTC) and ether (ETH) have seen massive growth in price and users, but there are still doubts about the **consequences** of wide cryptocurrency adoption. In particular, many skeptics and environmentalists have raised **concerns** about the energy consumption of cryptocurrency mining, which may cause increased carbon emissions and climate change.

2. These **astronomical** energy costs are due to the competitive nature of proof-of-work blockchains. Instead of storing account balances in a central database, cryptocurrency transactions are recorded by a distributed network of miners, incentivized by block rewards. These specialized computers are engaged in a computational race to record new blocks, which can only be created by solving cryptographic puzzles. Cryptocurrency **advocates** believe that this system has **numerous** advantages over centralized currencies because it does not rely on any trusted intermediary or single point of failure. However, the puzzles for mining require many energy-intensive computations.

3. Bitcoin, the most widely-known cryptocurrency network, uses 121 Terawatt-hours of electricity every year, the BBC reported in 2021 which is more than the entire country of Argentina. According to Digiconomist, a cryptocurrency analytics site, the Ethereum network uses as much power as the entire nation of Qatar. One major concern among environmentalists is that mining tends to become less efficient as the price of cryptocurrency increases. In the case of bitcoin, the mathematical puzzles to create blocks get more difficult as the price goes up, but transaction throughput remains constant. This means that over time, the network will consume more computing power and energy to process the same number of transactions.

4. All of this has combined to link cryptocurrencies with fossil fuels in a way that many investors have yet to acknowledge. According to researchers at the University of Cambridge, around 65% of bitcoin mining takes place in China, a country that gets most of its electricity by burning coal. Coal and other fossil fuels are currently a major source of electricity worldwide, both for cryptocurrency mining operations and other industries. However, burning coal is a significant contributor to climate change as a result of the carbon dioxide that the process produces. According to a report by CNBC, bitcoin mining accounts for about 35.95 million tons of carbon dioxide emissions each year which is about the same amount as New Zealand.

SECTION A (CONTINUED)

5. Supporters have downplayed the energy consumption of cryptocurrencies, claiming that mining operations tend to concentrate around areas with surplus renewable energy. A 2019 report by CoinShares, a pro-cryptocurrency research firm, estimated that 74.1% of the electricity powering the bitcoin network came from renewable sources, making bitcoin mining "more renewables-driven than almost every other large-scale industry in the world."
These claims rest on the fact that cryptocurrency miners are not geographically fixed, allowing them to move in search of surplus energy. According to CoinDesk, some petroleum companies are **exploring** ways to power mining rigs from gas flares, which would otherwise be wasted energy. Some Chinese mining firms migrate from one **province** to another in search of the cheapest energy, thereby supporting cheap renewable providers in those locations.

6. **Calculations** of bitcoin's renewable energy usage are controversial and often disputed. For example, a report by the Cambridge Center for Alternative Finance found that only 39% of bitcoin mining comes from renewable energy. Even with the most optimistic estimates of renewable energy use, the network represents a net contributor to carbon emissions. In addition to energy consumption, cryptocurrency mining also generates a significant amount of electronic waste as hardware becomes obsolete. This is especially true for Application-Specific Integrated Circuits, specialized hardware for mining the most popular cryptocurrencies.

7. Unlike other computer hardware, these circuits cannot be reused for any other purpose, and they quickly become obsolete. According to Digiconomist, the bitcoin network generates between eight and 12 thousand tons of electronic waste every year. It is also worth noting that a large number of cryptocurrencies have **negligible** environmental consequences. In particular, proof-of-stake blockchains like EOS and Cardano do not have mining, allowing transactions to be processed with the same energy requirements as an ordinary computer network.

8. Although this model has clear advantages over mining, it is difficult for an established network to transition to a new consensus **mechanism**. Ethereum is expected to upgrade to a proof-of-stake blockchain, but the proposal has been disputed by miners, as CoinDesk has reported.

9. Whether you are in favor of cryptocurrencies or against them, there is little doubt that bitcoin and other proof-of-work blockchains use enormous amounts of energy. Much of this energy usage comes from burning coal and other fossil fuels, although cryptocurrency advocates have argued that renewable sources are also a major component. While the exact figures are disputed, even the best case scenarios indicate that mining is a major factor in carbon dioxide emissions.

Source: https://www.investopedia.com/tech/whats-environmental-impact-cryptocurrency/

SECTION A (CONTINUED)

Q1. Identify **ONE (1) word** which carries the similar meaning based on the context.

(a) consequences (paragraph 1) (1 mark)

(b) concerns (paragraph 1) (1 mark)

(c) astronomical (paragraph 2) (1 mark)

(d) advocates (paragraph 2) (1 mark)

(e) numerous (paragraph 2) (1 mark)

(f) exploring (paragraph 5) (1 mark)

(g) province (paragraph 5) (1 mark)

(h) calculations (paragraph 6) (1 mark)

(i) negligible (paragraph 7) (1 mark)

(j) mechanism (paragraph 8) (1 mark)
[Total: 10 marks]

Q2. What are the concerns towards the wide usage of cryptocurrency adoption? (4 marks)

Q3. According to the passage, what are the drawbacks on high scale cryptocurrency mining? (6 marks)

SECTION A (CONTINUED)

Q4. ***"More renewables-driven than almost every other large-scale industry in the world."*** (Paragraph 5).
In your own words, what the intended meaning of the phrase stated above is. (4 marks)

Q5. In your own words, provide **FIVE (5)** benefits of renewable energy for industrials **and ONE (1)** elaboration for each benefit. (10 marks)

Q6. If you were one of the lawmakers, what law would you suggest the government to impose to guide on energy efficiency in industries to adapt? Please describe the details about the law. (6 marks)

[Total: 40 marks]

SECTION B [TOTAL: 30 MARKS]

REPORT WRITING

Answer **THE** question.

Q1. You are the president of the IT Youth Society in your university. The society will be organising a 2-day virtual campaign related to mental health awareness. The program is organised in light of providing useful information on how students could cope on stress during the Covid-19. The campaign will take place from 28 January 2022 to 30 January 2022.

Write a report explaining the progress of the preparations for the campaign to the advisory lecturer of the society, Dr. Eric Song to give some updates on the preparation of the virtual campaign. Include details on the tasks completed and also the remaining tasks as well as any hindrances you have faced so far.

Your report should include the following points:

Completed Work
Venue

On-going work
IT support

Future Work
E-certificates for the presenters and participants

Q1. (CONTINUED)

Add another **THREE (3) relevant points** about the event preparation and provide sufficient elaboration. The body of the report **should not be more than 250 words.**

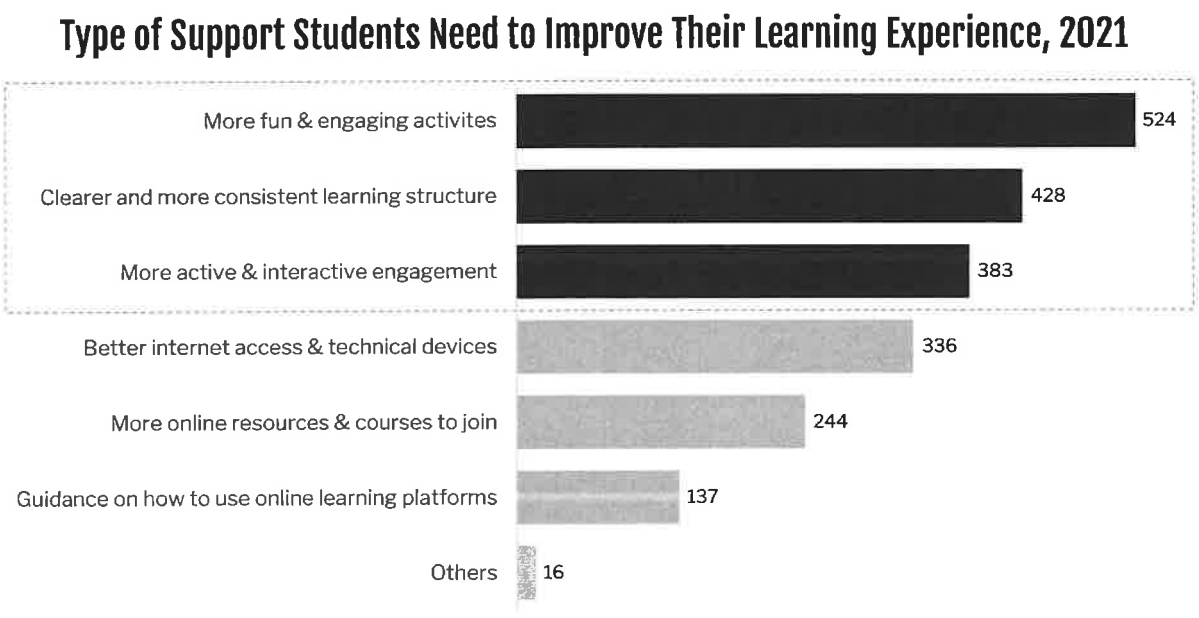
[Total: 30 marks]

SECTION C [TOTAL: 30 MARKS]

INTERPRETATION OF GRAPHICAL INFORMATION

Answer **THE** question.

Q1. The following bar chart shows the type of support students need to improve their learning experience in 2021. Interpret the chart accordingly in **not more than 250 words.** Explain the information by describing and making comparisons between the statistics in the graph. You are required to provide logical and sound analysis.



[Total: 30 marks]