

Number of questions	4
Number of pages	2



UNIVERSITY OF SRI JAYEWARDENEPURA

FACULTY OF TECHNOLOGY

Bachelor of Biosystems Technology Honours Degree

Bachelor of Engineering Technology Honours Degree

Academic Year 2021/22

Fourth Year Second Semester End Examination – April 2024

BTC 4251 / ETC 4271 Entrepreneurship and Small Business

Management

Duration: One (1) Hour

Read and follow the instructions given below.

- This paper contains four (4) questions on two (2) pages.
- “**Index number**” should be written on top of each page of the answer script, and pages must be **numbered appropriately**.
- **Answer all questions.**
- Start each question on a new page.
- Draw clearly labelled diagrams wherever necessary.
- Non-programmable calculators could be used.
- If you have any doubts as to the interpretation of the wording of a question, make your own assumptions, but clearly state them in the answer script.

Question 1

(Total Marks 25)

- a). "The ability to be creative is a fundamental component of success in business." **Briefly explain** this statement using five (05) steps in the creativity process with examples. *(10 Marks)*
- b). Imagine you're planning to open a restaurant in Colombo. **Briefly describe** how you will establish a successful restaurant using the six steps in the entrepreneurial process. *(15 Marks)*

Question 2

(Total Marks 25)

- a). **Explain** the importance of segmenting, targeting, and positioning (STP) process in marketing strategy with an example. *(12 Marks)*
- b). **Critically evaluate** the importance of conducting feasibility analysis for a business based on the four (04) main types of feasibility analysis with their subcomponents. *(13 Marks)*

Question 3

(Total Marks 25)

- a). **Briefly Describe** four (04) advantages and four (04) disadvantages of obtaining startup capital from a "Venture Capitalist." *(10 Marks)*
- b). **Evaluate and justify** a suitable business model that can be utilized to obtain a competitive advantage in red ocean with an example. *(15 Marks)*

Question 4

(Total Marks 25)

- a). **Briefly discuss** five (05) factors that impact small business failures and recommend three (03) good practices that can followed by the entrepreneurs to safeguard the business. *(8 Marks)*
- b). When establishing a new firm, there are several business registration options available, including limited liability company, partnership, and sole proprietorship. From your perspective, which business registration is the most suitable for a startup? **Critically evaluate and justify** your answer with evidence and examples. *(17 Marks)*

*****End of the question paper*****

Number of questions	5
Number of pages	3



UNIVERSITY OF SRI JAYEWARDENEPURA

FACULTY OF TECHNOLOGY

Bachelor of Information and Communication Technology Honours Degree

Academic Year 2021/22

Fourth Year Second Semester End Examination – April 2024

ITC 4172 Entrepreneurship and Small Business Management

Duration: Two (2) Hours

Read and follow the instructions given below.

- This paper contains five (5) questions on three (3) pages.
- “**Index number**” should be written on top of each page of the answer script, and pages must be **numbered appropriately**.
- **Answer all questions.**
- Start each question on a new page.
- Draw clearly labelled diagrams wherever necessary.
- Non-programmable calculators could be used.
- If you have any doubts as to the interpretation of the wording of a question, make your own assumptions, but clearly state them in the answer script.

Question 1**(Total Marks 20)**

a). "The ability to be creative is a fundamental component of success in business." **Briefly explain** this statement using five (05) steps in the creativity process with examples. *(10 Marks)*

b). Imagine you're planning to open a restaurant in Colombo.

i. **Briefly describe** how you will establish a successful restaurant using the six steps in the entrepreneurial process.

ii. **Describe** the three (03) primary types of competitors that restaurants commonly face in the industry with examples for each type.

*(10 Marks)***Question 2****(Total Marks 20)**

a). **Explain** the importance of segmenting, targeting, and positioning (STP) process in marketing strategy with an example. *(10 Marks)*

b). **Critically evaluate** the importance of conducting feasibility analysis for a business based on the four (04) main types of feasibility analysis with their subcomponents. *(10 Marks)*

Question 3**(Total Marks 20)**

a). **Briefly Describe** four (04) advantages and four (04) disadvantages of obtaining startup capital from a "Venture Capitalist." *(8 Marks)*

b). **Evaluate and justify** a suitable business model that can be utilized to obtain a competitive advantage in red ocean with an example. *(12 Marks)*

Question 4**(Total Marks 20)**

a). **Briefly discuss** five (05) factors that impact small business failures and recommend three (03) good practices that can followed by the entrepreneurs to safeguard the business. *(8 Marks)*

b). When establishing a new firm, there are several business registration options available, including limited liability company, partnership, and sole proprietorship. From your perspective, which business registration is the most suitable for a startup? **Critically evaluate and justify** your answer with evidence and examples. *(12 Marks)*

Question 5

(Total Marks 20)

Evaluate the importance of below mentioned concepts with industry-level examples.

- a) Digitalization of business
- b) Downsides of Technology
- c) Business processes used for business functions
- d) Ansoff Matrix
- e) BCG Matrix

(4 Marks x 5 concepts = 20 Marks)

*******End of the question paper*******

No. of Questions	04
No. of Pages	02

108

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UNIVERSITY OF SRI JAYEWARDENEPURA

Faculty of Technology

Bachelor of Information and Communication Technology Honours Degree

Academic Year 2021/2022

Fourth Year Second Semester Examination - April 2024

ITC4182 Professional Practices in ICT

Duration: Two (2) Hours

Read and follow the instructions given below:

- This paper contains four (4) questions in two (2) pages.
- Answer all questions.
- “Index number” should be written on top of each page of the answer script, and pages must be numbered appropriately.

Question 1

(Total 25 Marks)

- Briefly explain three (03) advantages of joining professional institutes. **3 Marks**
- With the support of examples, explain two(02) benefits of using collaborative tools in ICT-related projects. **5 Marks**
- Describe four (04) leadership styles that you have observed in organizations. **8 Marks**
- Imagine you are a project manager leading an ICT project with a cross-cultural diverse team of developers, designers, and engineers. Propose three (03) strategies you would implement to promote effective communication and collaboration among team members, considering their different roles and backgrounds. **9 Marks**

Question 2**(Total 25 Marks)**

- a) Briefly explain the concept of *non-profit organizations* providing examples. 3 Marks
- b) Explain two (02) types of organizational structures you have observed in the Sri Lankan IT sector. 6 Marks
- c) Explain three (03) key components or characteristics commonly found in the organizational culture of IT companies. 6 Marks
- d) Discuss the role of organizational culture in shaping employee engagement and retention in the IT sector in Sri Lanka. 10 Marks

Question 3**(Total 25 Marks)**

- a) Briefly explain the difference between *patents* and *copyrights*. 5 Marks
- b) With brief justifications, provide three (03) examples of products or objects eligible for *industrial design* protection. 6 Marks
- c) Suppose you lead an ICT project team facing an ethical issue related to the use of proprietary software without proper licensing. Describe three (03) steps you would take to address the ethical issue and mitigate its consequences. 6 Marks
- d) With the assistance of relevant examples, critically analyze the advantages and disadvantages of protecting *trade secrets* in maintaining a successful business. 8 Marks

Question 4**(Total 25 Marks)**

- a) Briefly explain the importance of the *legality* and *possibility* of the object of an agreement. 3 Marks
- b) Explain the difference between a contract and an agreement. 4 Marks
- c) Discuss the main steps of the formation of a contract. 8 Marks
- d) Assume that you are a project manager responsible for outsourcing a software development project to a third-party vendor. Describe at least five (05) key clauses you would include in the contract to mitigate risks and ensure project success. 10 Marks

Note: You don't need to provide the actual contract clauses. Instead, explain the types of clauses and the essential points that should be included in each clause.

**** End of the Paper*****

Number of pages	3
Number of questions	5



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Fourth Year Second Semester End Examination - April 2024

ITS4243 Microservices and Cloud Computing

Duration: Three (3) Hours

Read and follow the instructions given below:

- Answer all questions.
- “Index number” and course code “ITS4243” should be written on top of each page of the answer script, and pages must be **numbered appropriately**.

Question 1

(Total 10 Marks)

- Briefly explain the event-driven programming using an example in (02 marks)
Microservices.
- Discuss two (2) methods that can be used to define the scope of the
microservices and to right-size them. (04 marks)
- Explain what an event streaming platform is. (04 marks)

Question 2**(Total 15 Marks)**

Explain the following each of the concepts in the context of Microservices and Cloud Computing.

- a) Software Architectural Styles (05 marks)
- b) SAAS, PAAS, IAAS (05 marks)
- c) Kafka (05 marks)

Question 3**(Total 15 Marks)**

- a) Compare Cloud native and traditional software development approaches, based on five (5) comparative points. (05 marks)
- b) Explain five (5) coding standards that should be followed when using cloud-native programming. (05 marks)
- c) Assume that you are requested to containerize microservices developed with Spring Boot using spring build packs. List the steps of this process in sequence. (05 marks)

Answer Questions 4, and 5 based on the use case below.

Use case:

“Crystalline Apparel” is a leading organization in the apparel sector. Their operational line for manufacturing clothes which is known as the shop flow control system plays a critical role in meeting their customer demands. Currently, there are a lot of issues in tracking the manufacturing flow in the operational line as there is no system in place to monitor and track the manufacturing from raw material to finished products. Assume the Organization has consulted you to propose and implement a fully automated system that can track and monitor the end-to-end process. You are representing the consultancy firm.

Question 4**(Total 30 Marks)**

You are appointed as the new Solution Architect for this project and are supposed to come up with the solution architecture diagram which will be a base document for the developers to commence development.

- a) Explain the best practices that you should follow while developing the architecture diagram. (08 marks)
- b) Briefly explain why you should propose the Kubernetes container orchestration platform as a major component in your solution architecture diagram. (07 marks)
- c) Explain briefly why you should use Databricks as the data platform for data analytics. (05 marks)
- d) Draw the proposed solution architecture diagram. (10 marks)

Question 5**(Total 30 Marks)**

As a Developer on this project, you are supposed to decide upon the software architecture style.

- a) How do you justify microservices as the suitable architecture for the solution? (10 marks)
- b) What are the design patterns you are suggesting for this solution? (08 marks)
- c) If you are playing the Cloud Architect role in this project, briefly explain the migration strategy to move the on-premises developed microservices to the cloud (12 marks)

***** End of the Paper*****