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Faculty of Management and Social Sciences
Department of Logistics & Transport
BSc Hons in Logistics and Transportation
Course CODE: COM551

Year 1 Semester I

REPEAT EXAMINATION

Principles of Management – LTPM1207

- This paper consists of SEVEN questions on TWO (02) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2022.08.24　　　　　　　Pass mark: 50%　　　　　　　Time: 02Hours

Question 01: (Compulsory)

(a) What is organizational structure?　　　　　　　　　　　(05 Marks)
(b) Discuss two types of Contemporary Organizational Designs using examples.
　　　　　　　　　　　　　　　　　　　　　　　　　　　(10 Marks)

(c) Explain following terms;
　　　(i) Unity of command
　　　(ii) Span of control　　　　　　　　　　　　　　　　(5*2 Marks)

Question 02

(a) Differentiate the two terms "Vision" and "Mission"　　　　(05 Marks)
(b) Why do some managers choose not to plan? Would you agree with their decisions?
　　　　　　　　　　　　　　　　　　　　　　　　　　　(20 Marks)

Question 03

(a) Explain the concept of motivation　　　　　　　　　　　(05 Marks)

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(b) Compare and contrast learnings under two selected theories of motivation.

(20 Marks)

Question 04

(a) What is the role of controlling? (05 Marks)
(b) Explain the below types of controls with examples
   (i)   Feedforward controlling
   (ii) Feedback controlling
   (iii) Concurrent controlling (4*3 Marks)

(c) Explain two measures that could be used to measure the performance of an organization? (08 Marks)

Question 05

(a) List three major components of an organization's task (Micro) environment. Discuss how each element can impact the performance of an organization using examples.

(15 Marks)
(b) What are demographic forces? Discuss how demographic forces can affect the organizational performance using examples (10 Marks)

Question 06

(a) Identify one major contributor to scientific management theory and discuss his/ her idea of management. (10 Marks)
(b) Describe types of corporate strategies using examples. (15 Marks)

Question 07

(a) Explain the types of problems and decisions often faced by a manager. (12 Marks)
(b) List seven key methods of interpersonal communication commonly used in an organization. (07 Marks)
(c) List three common communication networks and explain one of that.

(06 Marks)

--------------------*END OF THE QUESTION PAPER*------------------

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Year 1 Semester I
REPEAT EXAMINATION
Microeconomics – LTME1205

- This paper consists of SEVEN questions on FIVE (05) pages.
- Answer FOUR Questions including First Question
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2022.08.23   Pass Mark: 50%   Time: 02 Hours

Question: 01 (Compulsory)

(a) Briefly explain the functions of Microeconomics and the importance of each
   function to the role of decision making.   (05 Marks)

(b) Explain the basic economic problems of a society.   (05 Marks)

(c) Distinguish the difference between Needs and Wants.   (05 Marks)

(d) What causes the production possibilities frontier shift outward?.   (05 Marks)

(e) Briefly explain the significance of government intervention to the market failure.

                                                                (05 Marks)

Question: 02

A number of countries, including Morocco, capture water from fog. Water is used in the primary, secondary and tertiary sectors. In recent years, Morocco has increased the quantity and quality of its resources and has moved more of them into the tertiary sector. The quantity, quality and composition of a country's resources are influenced by a number of factors, including its birth rate. Morocco's birth rate fell from 19.9 in 2016 to 18.7 in 2018.

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(a) Describe a Free Good with the aid of example   (04 Marks)

(b) Explain the difference between the secondary sector and the tertiary sector.

(04 Marks)

(c) Limited resource generates "Relative Scarcity", Briefly explain the statement with the aid of an example.   (05 Marks)

(d) Analyze, using a production possibility curve (PPC), the effect of an increase in the quality of its resources on an economy.   (06 Marks)

(e) Discuss whether or not a fall in a country's birth rate will benefit an economy.

(06 Marks)

Question: 03

Consider the following Demand and Supply equations of an edible product in the market.

$Q_{dx} = 600 - 5P_x$
$Q_s = -100 + 2P_x$

(a) Find the equilibrium Price and the Quantity.   (04 Marks)

(b) Illustrate the demand and supply curves in a diagram with the help of demand and supply schedules.   (06 Marks)

(c) Government Impose a tax of Rs: 04 for a unit. Calculate the new market equilibrium after imposing tax   (04 Marks)

(d) Find the Consumer Surplus and Producer Surplus before the tax.   (06 Marks)

(e) Find the total Tax Revenue that government receive after imposing a unit tax

(05 Marks)

Question: 04

(a) Identify the factors affecting to Price Elasticity of Demand   (04 Marks)

(b) Briefly explain the term of "Necessity goods" and "Normal goods" with the aid of an example.   (04 Marks)

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(c) Briefly explain the term of Cross Price Elasticity of Demand and interpret the results of the sign of the co-efficient. (06 Marks)

(d) Identify 2 Characteristics of Perfectly Competitive Market and Oligopoly Market. (05 Marks)

(e) Assume, If the price of a petrol liter increased from Rs 380 to Rs 420 and demand fell from 250 cars to 220 cars for a day. Calculate the PED of the above product and briefly interpret the results. (06 Marks)

Question: 05

Two of Uzbekistan's main industries are cotton and gas. Uzbekistan is the world's seventh largest producer, and fifth largest exporter, of cotton. The Uzbek government has tried to influence the cotton industry's price elasticity of supply. It has also nearly ended the use of child labour in cotton production. The country's output of gas increased by 7% in 2018 and its average cost of gas production fell.

(a) Identify two determinants of price elasticity of supply. (04 Marks)

(b) Briefly explain the term Average Cost with the aid of example. (04 Marks)

(c) Explain two advantages to an economy of ending child labour. (04 Marks)

(d) Analyze how Average Cost can change as output increases. (06 Marks)

(e) Discuss whether or not an economy would benefit from allocating more of its resources to agriculture. (07 Marks)

Question: 06

Industries and markets are changing in Vietnam. There is greater use of division of labour in a range of industries. Many markets are becoming more competitive, causing some firms to make losses. Manufacturing was Vietnam's strongest sector in 2018, when manufacturing output increased by 13%.

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(a) Define division of labour with the aid of an example. (04 Marks)

(b) Briefly explain the term Market Competitiveness with the aid of an example.

(04 Marks)

(c) Explain two reasons why a loss-making firm may continue to produce.

(06 Marks)

(d) Analyze the advantages that consumers may gain from a competitive market.

(05 Marks)

(e) Discuss whether or not an increase in a country's manufacturing output will increase its economic development. (06 Marks)

Question: 07

Part -A

The demand "curve" for chocolate bars is = 1,600 – 300P, where is the quantity of chocolate bars demanded and P is the price in $. The supply "curve" of chocolate bars is = 1,400 + 700P, where is the quantity of chocolate bars supplied.

(a) Calculate the equilibrium price and the equilibrium quantity of this market.

(04 Marks)

(b) Suppose now that because of a decline in consumers' tastes for chocolate bars the demand "curve" changes to = 1,500 – 300P. Calculate the new equilibrium price and quantity. (04 Marks)

(c) How would your answers to a) and b) above change if in both cases the supply "curve" was completely elastic (that is, "Horizontal") at the price of 0.2 $ per chocolate bar?. (05 Marks)

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Part -B

Briefly explain the following terms with aid of an example.

(a) Mixed Economy

(b) Average Variable Cost

(c) Production Economics of Scale

(Each 04*03 Marks)

---------------------END OF THE QUESTION PAPER----------------

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Year 1 Semester I

REPEAT EXAMINATION

Mathematics for Business I – LTMB1203

- This paper consists of SEVEN questions on SIX (06) pages.
- Answer <u>FOUR (04)</u> questions including Question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2022.08.17   Pass mark: 50%   Time: 02 Hours

Question 01 (Compulsory)

For the questions (a)-(e) choose the correct answer.   (03 Marks each)

(a) Choose the correct statement.

    (i) $3 + 2i \in \mathbb{R}$

    (ii) $\frac{5}{3} \in \mathbb{Z}$

    (iii) $3e + 2 \in \mathbb{C}$

    (iv) $\sqrt{2} + \sqrt{3} \in \mathbb{R}$

    (v) $-1 \in \mathbb{N}$

(b) What can you say about the nature of the roots of $4x^2 - 2x + 3 = 0$?

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(i)   It has two distinct real roots.

(ii)   It has one repeated root.

(iii)   It has no roots.

(iv)   It has no real roots.

(v)   It has three roots.

(c) The solution set of $|5x - 2| < 18$ is,

(i) $-\frac{16}{5} < x < 4$

(ii) $-\frac{16}{5} \leq x \leq \frac{16}{5}$

(iii) $-4 \leq x \leq 4$

(iv) $-\frac{16}{5} \leq x \leq 4$

(v) $-4 < x < 4$

(d) Choose the correct expression.

(i) $\log_2 \frac{1}{32} = 5$

(ii) $\log_{10} 0.01 = 2$

(iii) $\log_4 64 = 3$

(iv) $\ln\left(\sqrt[8]{e}\right) = 8$

(v) $2\ln(e^6) = 6$

(e) $\left(\frac{3x^5 y^4}{x^0 y^{-3}}\right)^2$ can be simplified to get

(i) $9x^{25}y^{18}$ (ii) $9x^{10}$ (iii) $3x^{10}y^{36}$ (iv) $9x^{25}y^{36}$ (v) $9x^{10}y^{14}$

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(f) Let $f(x) = x^5 - 3x^3 + 2x^2 - 2x - 1$. Find $f'(x)$.   (04 Marks)

(g) Determine the domain of $g(x) = x^3 + \frac{6}{\sqrt{x}} - \frac{1}{\sqrt{x-7}}$.   (04 Marks)

(h) Let $A = \{3, 5, 7\}$ and $B = \{3, 6, 7, 10\}$. Find $A \cap B$.   (02 Marks)

(25 Marks)

Question 02

(a)   Let $A = \begin{pmatrix} 6 & 4 & -3 \\ 2 & 5 & 1 \\ -2 & 0 & 9 \end{pmatrix}$.

Show that $A + A^T$ is a symmetric matrix.   (06 Marks)

(b)   Write following logarithmic equations as exponential equations. (04 Marks)

(i) $\log_3 9 = 2$

(ii) $\log_2 8 = 3$

(c)   Find x in $\log_4 x = 2$.   (03 Marks)

(d)   Given that $\begin{vmatrix} 2 & -3 & 1 \\ 2 & 0 & -1 \\ 1 & 4 & 5 \end{vmatrix} = x^2$, find x.

Hint: Start by calculating the determinant of given matrix.   (07 Marks)

(e)   Calculate $\lim_{x \to 2} x^3 + 2x^2 - 3x + 5$.   (05 Marks)

Question 03

(a) Evaluate $\int x^2 \ln x \, dx$ using integration by parts.   (06 Marks)

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(b) Let $A = \begin{pmatrix} 5 & 4 & -1 \\ 2 & 1 & 2 \\ 6 & -3 & 1 \end{pmatrix}$ and $B = \begin{pmatrix} 2 & 1 & 2 \\ 5 & 4 & -1 \\ 12 & -6 & 2 \end{pmatrix}$

(i) Given that $2A + C = B$, find C. (03 Marks)

(ii) Find A^2. (03 Marks)

(iii) Calculate $|A|$. (03 Marks)

(iv) Hence determine the $|B|$ without calculations and give reasons for your

answer. (02 Marks)

(v) Use necessary calculations to prove the answer obtained in (iv).

(03 Marks)

(c) Solve the differential equation $\frac{dy}{dx} = xe^{2y}$. (05 Marks)

Question 04

(a) Let $f(x) = 3x^2 + 5x - 2$.

(i) Determine the nature of roots using the discriminant of $f(x)$. (03 Marks)

(ii) Determine the roots of $f(x)$ by factorizing or using any other method.

(03 Marks)

(iii) Find the coordinates of the points where the graph of f intersects the x-axis.

(02 Marks)

(iv) Find the y-intercept of the graph of f. (02 Marks)

(v) Find the coordinates of the vertex. (04 Marks)

(vi) Sketch the graph of $f(x)$ using the results you obtained in (b), (c), (d) and (e).

(04 Marks)

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(vii) Determine the domain and the range of $f(x)$, using the graph obtained in (f).

(03 Marks)

(viii) Explain <u>two</u> methods to determine the solution set of $3x^2 + 5x - 2 < 0$.

(04 Marks)

Question 05

(a) Solve the given system using Cramer's Rule. (12 Marks)

$$3x + y - z = 3$$
$$x + y + z = 1$$
$$x - 2y - 3z = 4$$

(b) Let $f(x) = \frac{x-2}{1-\sqrt{3x-5}}$, $g(x) = 5x^2 - 9$, $h(x) = 4x^3 + 2x$

   (i) Show that when $\lim_{x \to 2} f(x)$ gives an indeterminate form when direct

   substitution is used. (02 Marks)

   (ii) Evaluate $\lim_{x \to 2} f(x)$ by writing an equivalent form of $f(x)$. (03 Marks)

   (iii) Evaluate $\lim_{x \to -2} g(x) \cdot h(x)$. (03 Marks)

(c) Evaluate $\int_4^{12} \frac{2}{\sqrt{x}} dx$, giving your answer in the form $a + b\sqrt{3}$, where a and b are

   <u>integers</u>. (05 Marks)

Question 06

(a) Given that A is a constant and $\int_1^4 (6\sqrt{x} - A)dx = A^2$, show that there are two

   possible values for A and find these values. (05 Marks)

(b) Given $A = \{2, 4, 6, 8, 10, 12, 14\}$ and $B = \{4, 8, 12\}$. Using <u>necessary calculations</u>,

   <u>show</u> that following statements are <u>true</u>.

   (i) $P(B)$ has 8 elements. (03 Marks)

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(ii) $B \subset A$ (03 Marks)

(iii) $A \cup B = A$ (02 Marks)

(iv) $A \cap B = B$ (02 Marks)

(c) Find x, if $B = \begin{pmatrix} 4 & x+2 \\ 2x-3 & x+1 \end{pmatrix}$ is symmetric. (04 Marks)

(d) Calculate the limit values of following functions.

(i) $\lim_{x \to 6}(3x^2 + 7x - 8)$ (ii) $\lim_{w \to 3} \frac{w^2 - 8w}{4 - 7w}$ (06

Marks)

Question 07

(a) Find $\int_{-2}^{6} f(x)\, dx$ if $\int_{4}^{-2} f(x)\, dx = -2$ and $\int_{6}^{4} f(x)\, dx = 5$. (03 Marks)

(b) Given that $p(x) = e^{2x}$ and $q(x) = 3\ln(5x)$

(i) Obtain $r(x) = p(x) + q(x)$. (03 Marks)

(ii) Find $r'(x)$. (03 Marks)

(iii) Show that $r''(x) = 4e^{2x} - \frac{3}{x^2}$. (02 Marks)

(iv) Evaluate $\frac{d}{dx}(p(x) \cdot q(x))$. (03 Marks)

(c) Let $A = \begin{pmatrix} 3 & -5 \\ -4 & 1 \end{pmatrix}$ and $B = \begin{pmatrix} -3 & 1 & 1 \\ 0 & 4 & 0 \end{pmatrix}$. Calculate $A \cdot B$ if possible. (05 Marks)

(d) Solve $4(2x - 6) + 4x \leq 2$ and display the solution set in a real number line.

(06 Marks)

--------------------END OF THE QUESTION PAPER-----------------

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Year 1 Semester I

REPEAT EXAMINATION

Introduction to Logistics – LTIL1306

- This paper consists of EIGHT questions on SEVEN (07) pages.
- Answer <u>FIVE</u> questions including Question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2022.08.22   Pass mark: 50%   Time: 03 Hours

Question 01 (Compulsory)

Select the most appropriate answer and write the letter of the correct answer in your answer script.   (2.0*10 Marks)

01) Which of the following is <u>NOT</u> a material handling principle in a warehouse?

    a) The work principle.

    b) The ergonomic principle.

    c) The automation principle.

    d) Storage principle.

02) Which of the below statement/s correctly mention the factors that encourage global logistics?
    I.   Demand for foreign products.
    II.   Manufacturers aiming for economies of scale.
    III.   Changing practices in logistics.

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a) I only.

b) I and II only.

c) All of the above.

d) None of the above.

03) Which of the below is a type of a logistics relationship?
a) Horizontal Relationships

b) Vertical Relationships

c) Full Collaborations

d) All of the above

04) Which of the following group correctly demonstrate the merchant buyers?

a) Wholesalers and Retailers

b) Industrial buyers and Manufacturers

c) Distributors and manufacturers

d) None of the above

05) Which of the following accurately demonstrate the correct order of Purchasing cycle?

a) Identify need, Outline procurement plan, select suppliers, Issue RFQ, Tender evaluation, Contract terms and conditions, Supply chain management, Warehouse management, Asset management.

b) Outline procurement plan, Identify need, Issue RFQ, Contract terms and conditions, Supply chain management, Warehouse management, Asset management, Tender evaluation.

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c) Issue RFQ, Tender evaluation, Contract terms and conditions, Outline procurement plan, Supply chain management, Identify need, Warehouse management, Asset management.

d) None of the above.

06) What's the major difference between Intermodal and Multimodal transportation?

a) Intermodal transportation has one contract while multimodal transportation has several contracts.

b) Multimodal transportation has one contract and intermodal transportation has several contracts.

c) Multimodal transportation takes several routes while intermodal transportation takes only one route.

d) All of the above.

07) What's not a reason for the companies to buy from outside rather than making in-house?

a) Lack of experience and expertise.

b) Supplier's specialized know-how.

c) To protect proprietary technology.

d) Tap onto a pool of talents.

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08) Choose the most suitable transport mode for the below given scenario.
Salmaan needs to export tea to one of his customers in Australia and for this
purpose Salmaan had to enter into several individual contracts with transport
service provider for road movement (in seller's country) , carrier for sea movement
as well as rail/ road movement in buyer's country.

The transport mode that Salmaan has chosen is;

a) Intermodal transport.
b) Multimodal transport.
c) Both Intermodal and multimodal transport.
d) Intramodal transport mode.

09) "When products are destined for a mass market, the marketer will seek out
intermediaries that appeal to a broad market base."
Which of the following distribution method best describes the above scenario?

a) Selective distribution
b) Mass distribution
c) Exclusive distribution.
d) None of the above.

10) In the viewpoint of the **customer**, how' s an order is described?

a) Intention to buy and is called a purchase order.
b) Intention to sell and is referred to as a sales order.
c) Both of the above.
d) None of the above.

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Question 02

a. "Many people argue that warehouse in a supply chain is located right after the manufacturing stage". As a student learning Introduction to Logistics module, elaborate your answer as to where does warehousing lay in the supply chain?

(10 Marks)

b. Logistics systems are different from one industry to another sometimes even depending on the material they use as inputs. Explain with at least 200 words the types of logistics systems in your own words. You may use examples to aid your answer.

(10 Marks)

Question 03

Hashan wishes to start a new venture of exporting tea to overseas markets like Iran, UAE and Lebanon to fulfill his dream of becoming an entrepreneur. However, since the firm is going to be formulated newly, Hashan's investment capability is very limited. Nevertheless, Hashan expects that there will be a huge demand for his products from other overseas markets in future and expects to invest in a private warehouse.

a) If Hashan seeks advice from you regarding the most suitable warehouse that he should invest in, what do you think is the most suitable type of warehouse for him to invest in?

(10 marks)

b) Why is cross docking function popularly used in warehousing?

(05 marks)

c) As Bullwhip effect is a very common phenomenon in supply chain, the complexities in inventory management always arise, explain in your own words, what exactly is bullwhip effect and how it creates complexities in supply chain.

(05 marks)

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Question 04

Nimal is a businessman who has started his business recently. However, during the month of December he noticed that he has too much of inventory which are not moving out of the business. Amidst the higher inventory levels in the business, he ordered another quantity of inventory in the month of January too and realized his inventory costs are gradually rising.

a) Imagine that you are appointed as a consultant to his business and explain Nimal, the major goal of inventory management. (05 marks)

b) However, his friend Kavini, faces an out of stock situation in her business and seek advices regarding the need of holding inventory in the business. Advice Kavini in this regard. (05 marks)

c) With the peak demand for the products produced by Nimal's company, company suddenly faces the risk of stock out situation. Explain Nimal about the importance of keeping a "Safety/ buffer stock" and "Shorter lead times". (10 marks)

Question 05

a) "Emergence of global logistics has happened as a result of globalization."
Elaborate this statement in your own words. (05 marks)

b) Explain the possible scenarios in which global logistics can occur in your own words.
(05 marks)

c) What do you think are the factors that have encouraged businesses to engage in global logistics? Explain (10 marks)

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Question 06

a) Why do you think transportation is playing an important role in logistics? (06 marks)

b) Rithmi works for the procurement department of ABC Company as an intern and wishes to learn about the activities in order processing. As her immediate supervisor, explain her the activities in order processing. (10 marks)

c) Using a practical example, explain ABC analysis. (04 marks)

Question 07

a) Distinguish between centralized and decentralized logistics models. (05 marks)

b) Elaborate in your own words, how inbound and outbound logistics occur in an organization. (05 marks)

c) Explain the type of Logistics systems with examples. (05 marks)

d) What are the three major types of supply chains? (05 marks)

Question 08

Write short notes on the below topics. (04*05 Marks)

a) Exclusive distribution.
b) Liner Shipping services.
c) Chartered and scheduled flights.
d) Vehicle routine and scheduling.

-----------------END OF THE QUESTION PAPER-----------------

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Year 1 Semester I
SEMESTER END EXAMINATION
Mathematics for Business I – LTMB1203

- This paper consists of SEVEN questions on FIVE (05) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- <u>Calculators are NOT allowed.</u>
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.09.24   Pass mark: 50%   Time: 02Hours

Question 01: <u>Compulsory</u>

(a) Draw the rough sketch for the following function. Where $x \in [-4, 6]$

$$G(x) \begin{cases} (1/2)\,x + 3 & x \le -2 \\ 2 & -2 < x \le 0 \\ x^2 + 2 & 0 < x < 2 \\ 7 & 2 = x \\ 8 & 2 < x \end{cases}$$

   (i)   Find the domain and range of the function.
   (ii) Check the continuity of G, at $x = -2$ and $x = 2$.

(10 Marks)

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(b) Find A, B two matrices on $\mathbb{Z}$ such that $|A| \neq 0$, $|B| \neq 0$ But $|A + B| = 0$.

(10 Marks)

(c) Show the following . (Hint : $|A|$ denotes determinnant of A)

$$\begin{vmatrix} 1 & 1 & 1 \\ a & a & a \\ bc & ca & ab \end{vmatrix} = 0$$

(10 Marks)

(d) Determine the following definite integral.

$$\int_{-2}^{6} |x^2| \, dx$$

(05 Marks)

(e) Use first principal of derivatives to find the slope of function

$f(x) = -x^2 - x$, at (-1,0)

(05 Marks)

Question 02

(a)   Solve the following equation.

$$\det \begin{bmatrix} \lambda & 1 \\ 4 & \lambda \end{bmatrix} = 0$$

(05 Marks)

(b)   Let $A = \begin{pmatrix} 1 & 1 \\ 0 & 1 \end{pmatrix}$, $B = \begin{pmatrix} 1 & 1 \\ 1 & 0 \end{pmatrix}$, $C = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$

(i)   Show that $(A+B)^T = A^T + B^T$

(ii)   Use A, B and C matrices to show that matrix addition is associative

(10 Marks)

(c)   Suppose A$=\begin{pmatrix} 1 & 1 \\ 1 & 0 \end{pmatrix}$ (Where K_1, $K_2 \in [R$)

Show that ($K_1 + K_2$) A = K_1.A+ K_2 A   (05 Marks)

Question 03

(a)   (i)   Show that $log_a b = {}^1/{log_b a}$.

(ii)   Further above result to show that $log_y x = \frac{log_a x}{log_a y}$

(06 Marks)

(b)   The formulae for the amount of energy E (in joules) released

by an earthquake is $E = 3.21 * 10^{19} * 10^{1.44M}$, Where M is the magnitude

of the earth quake on the Richter scale.

(i) The Newcastle earthquake in 1989 had a magnitude of 4 on the
Richter Scale.   How many Joules were released?

(ii) In an earth quake in San Francisco in the 1900's the amount of energy
released was doubled that of the Newcastle earth quake. Find the
Richter Scale.

(06 Marks)

(c)   Solve the following equations for x.

i. $Log_2 [x /(x - 3)] = 2$

ii. $7 - 8 \ln (2x) = - 57$

(04 Marks)

(d)   Write the following expressions as a single term.

$Log_4 (8) - Log_4 (2) + Log_4 (64) - Log_4 (4)$

(04 Marks)

Question 04

(a) Determine the following finite and infinite limit values.
(Where a,b and c are constants)

(i) $\lim\limits_{x \to 2}(x^2 - x + 4)$

(iii) $\lim\limits_{x \to -3} \dfrac{(x^5 + 3^5)}{(x+3)}$

(ii) $\lim\limits_{\theta \to 0} \dfrac{[(sina\theta * sinb\theta)]}{2ac\theta^2}$

(iv) $\lim\limits_{x \to -\infty}\left(\dfrac{-x^3 + x + 5}{x^3 + x + 1}\right)$

(12 Marks)

(b) Find the First Derivative at x = ($\pi/4$) for the following functions.

(i) $f(x) = x^2 + 2x + 8$

(ii) $g(x) = \sin x . \cos 3x$

(08 Marks)

Question 05

(a) Find the following indefinite integrals (where a,b and c are constants)

(i) $\int (x^{(1/4)} + \cos cx + e^{bx})\,dx$

(iii) $\int bc \tan ax\,dx$

(ii) $\int 2x^2 e^{2x}\,dx$

(iv) $\int 3bc \sin 2x\,dx$

(12 Marks)

(b) Find the following definite integrals. (Where a,b and c are constants)

(i) $\int_0^{\frac{\pi}{4}} [2\cos(x)]dx$

(ii) $\int_0^3 |-x^2|dx$

(08 Marks)

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Course CODE: COM551

Question 06

(a) Find the limits of the following functions.

(i) $\lim_{\theta \to 0} \frac{[1 - \cos 4\theta + \sin^2 2\theta]}{\theta^2}$

(ii) $\lim_{x \to 6} \frac{(x^2 - 36)}{\sqrt{x-5} - 1}$ (06 Marks)

(b) Use first principal of derivatives to find the slope of function $f(x) = x^2 + x + 1$ at $(1,0)$

(04 Marks)

(c) Find the first derivative of the followings.

(i) $f(x) = \frac{e^x}{x^2 + 3}$ (ii) $g(x) = \log(\sin x)$

(06 Marks)

(d) Find A, B two matrices on $\mathbb{N}$ such that, $A \neq 0$, $B \neq 0$, But $AB = 0$
(0 is zero matrix)

(04 Marks)

Question 07

(a) Solve the following system

$$\log_y(x) = 7$$
$$x\,y = 256$$

(08 Marks)

(b) Solve following equations for X in terms of Y

$Y = b\,e^{(3x+a)}$ (a, b are constants.) (04 Marks)

(c) Find A, B two matrices on $\mathbb{Z}$ such that $|A| = 0, |B| = 0$ But $|A + B| \neq 0$

(08 Marks)

------------------END OF THE QUESTION PAPER------------------

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Year 1 Semester I
REPEAT EXAMINATION
Principles of Management – LTPM1207

- This paper consists of SEVEN questions on FIVE (05) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2021.04.22   Pass mark: 50%   Time: 02 Hours

Question 01: (Compulsory)

Select the most appropriate answer form the given options.

1. A manager scans the external business environment and determine the threats and opportunities relevant to the organization and work on them.
   What is the best managerial role for the above mentioned task of a manager as per the ten managerial roles introduced by Henry Mintzberg?
   (a) Disseminator
   (b) Leader
   (c) Monitor
   (d) Negotiator

2. Select the most suitable statement relevant to the managerial skills
   (a) Technical skills are highly useful for top level managers
   (b) Human skills are useful for all levels of managers alike
   (c) Conceptual skills are more relevant to the supervisory level of management
   (d) Human skills are more important to the tactical management level

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3. Efficiency is all about;
    (a) 100% goal attainment
    (b) Managing employee turnover
    (c) Managing waste in all resources
    (d) Doing the right thing

4. A limitation of job specialization is
    (a) Employee tardiness
    (b) Employee job expertize
    (c) Employee Motivation
    (d) Employee retention

5. The reason to assign weights for a decision making criterion is;
    (a) To recognize the relative importance of each alternative to be selected
    (b) To recognize the relative importance of each decision criterion for the problem
    (c) To identify the decision criterion in a quantitative manner
    (d) To reduce the qualitative value of the decision criterion

6. Select the most suitable statement mentioned below
    (a) Planning and controlling are inseparable
    (b) Planning provides outputs for controlling
    (c) Planning is done for a short period of time and controlling is done in long-run
    (d) Controlling is done once in each year

7. Sarath is a manager in the BBC world (pvt) Ltd. Select the most suitable statement on his span of controlling.
    (a) He has been the leader of the work improvement team
    (b) He has expanded his responsibility on quality controlling function in the company as well
    (c) Sarath is good at working with Ms. excel and power point
    (d) Under him, there are ten (10) employees working at the moment

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8. Labelling people based on a common set of traits cannot be accepted as per........................in leadership
    (a) Trait theories
    (b) Behavioral theories
    (c) Situational/contingency theories
    (d) Big man theories

9. An example for non-verbal cues in communication is;
    (a) Eye contact
    (b) Telephone conversation
    (c) Meetings
    (d) Presentations

10. Employees compare their benefits and their peers' benefits in an organization and come to a state on their motivation is the conclusion on the
    (a) Needs hierarchy
    (b) Two factor theory
    (c) Equity theory
    (d) Goal setting theory   (10*02 Marks)

11. Provide short answers;
    (a) Employee conflicts will be experienced the most usually in the ....stage in a team
    (b) A salary deduction for an employee who comes late to work is an example for a .... decision
    (c) Managers have to symbolize the effects of the various environmental forces' impact and develop necessary strategies is the idea behind the .... view on managers which is against the Omni-point view.
    (d) Inflation is a key concern in the .... environmental force
    (e) .... is the ability to transform any creative idea into a useful product to the world.   (05 Marks)

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Question 02

(a) "Technological environmental force is the most dramatic force for many organizations. Discuss its impact and usage with regard to the supermarkets in Sri Lanka.

(10 Marks)

(b) Briefly explain the Maslow's hierarchy on motivation. Support your answer with appropriate examples. (15 Marks)

Question 03

(a) Performance evaluation in an organization, can be done in many phases namely as, feedforward, concurrent and feedback controlling. Discuses, their application with examples. (15 Marks)

(b) Blake and Mouton has introduced the managerial grid to recognize different managerial styles in organizations and guided on a perfect style. Appraise each style in the grid and recommend the perfect style there. (10 Marks)

Question 04

Discuss any **five statements**, mentioned below

   (i) Matrix structure of departmentalization is ideal for today's organization
   (ii) Competitors in the task environment is no more enemies in the modern world
   (iii) Mission statement in an organization provides a particular scope for business decision making
   (iv) Eye contact make communication more effective
   (v) Formal procedures established in an organization minimizes the employee conflicts
   (vi) Employees would be creative as a result of their work environment setting (05*05 Marks)

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Question 05

Change curve illustrates the various emotional reactions for a change and performance variety over time passing and strategies to manage performance. Do you agree with the following statement? Justify your answer with examples.

(25 Marks)

Question 06

A team passes various stages in its life cycle. Describe the key characteristics and behavior of team members in each stage of team life cycle as per the Tuckman's model.   (25 Marks)

Question 07

Employee motivation can be enhanced in the way of setting goals. Discuss the characteristics of goals that are motivational for employees to reach high performance levels.   (25 Marks)

--------------------END OF THE QUESTION PAPER----------------

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Department of Logistics & Transport
BSc Hons in Logistics and Transportation
Course CODE: COM551

Year 1 Semester I
SEMESTER END EXAMINATION
Microeconomics – LTME1205

- This paper consists of SEVEN questions on SIX (06) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.09.30   Pass mark: 50%   Time: 02 Hours

Question 01 (Compulsory)

(a) Define the term of **Economic models** and explain the purpose of using Economic models in Economics.   (04 Marks)

(b) "Economics study to what extent should the government intervene in the economy." Briefly explain the statement.   (04 Marks)

(c) Briefly explain the factors affecting to Transport Demand   (04 Marks)

(d) Identify the difference between **Renewable Resources** and **Non-Renewable Resources**.   (04 Marks)

(e) Identify the characteristics of an underdeveloped country.   (04 Marks)

(f) Find the Point Elasticity of Demand at price of **Rs: 4.0** using the following Demand and Supply functions.

$Q_d = 200 - 10p$

$Qs = 100 + 15p$ (05 Marks)

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Question 02

There is a smaller proportion of large firms in Africa than in Asia. The two African countries with the largest firms are Nigeria and South Africa. These two countries' firms have more capital goods than most other African countries' firms. Firms in South Africa produce a range of products including gold and petrochemicals. In recent years, a number of African firms have developed into Multinational Companies (MNCs), producing mainly in other African countries.

(a) Define a capital good with aid of an example. (03 Marks)

(b) Briefly explain two challenges faced by the small firms at the long run of their production. (04 Marks)

(c) Define the terms of Short Run and the Long Run of a firm with the aid of an example. (04 Marks)

(d) Analyze, using a demand and supply diagram, how a rise in income may affect the market for gold. (06 Marks)

(e) Discuss whether or not MNCs increase production and productivity in their host countries. (08 Marks)

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Question 03

In 2017, the Japanese government announced improvements to its tax system. The amount of tax raised is influenced by the size and age distribution of a country's population.

Japan's birth and death rates are falling, its population is ageing, and it has low immigration. Overall, Japan's population is decreasing.

(a) Define the term of "Tax" and identify the types of taxes related to Transport
Industry. (04 Marks)

(b) State two qualities of a good tax. (02 Marks)

(c) Analyze how tax increase affects the market economy. (05 Marks)

(d) Analyze, using a production possibility curve (PPC) diagram, the effect of
decrease in population size on an economy. (06 Marks)

(e) Suppose the Japanese government expect to increase the fuel tax by 10%.
Analyze the impact of fuel taxes on public transport. You may use suitable diagrams
to quote your answer. (08 Marks)

Question 04

Consider the following Demand and Supply equations of an ARS Airline.

$Q_{dx} = 350 - 8P_x$
$Q_s = 150 + 12P_x$

(a) Find the equilibrium Price and the Quantity. (04 Marks)

(b) Illustrate the demand and supply curves in a diagram with the help of demand and

supply schedules. (04 Marks)

(c) Find the excess demand and excess supply at the price of Rs: 05 and Rs: 20

(04 Marks)

(d) Find the Consumer Surplus and Producer Surplus. (04 Marks)

(e) Calculate the Deadweight Loss. (03 Marks)

(f) Suppose government impose a unit tax of Rs: 50 for a trip for the entire airlines which
landed in Sri Lanka. Calculate the new equilibrium price and the quantity after
imposing a unit tax. (04 Marks)

(e) Calculate the total government revenue after imposing a unit tax.

(02 Marks)

Question 05

Singapore is usually ranked as one of the best countries in which to do business. It is an
open economy engaging in free trade. It has a history of strong entrepreneurship, low
unemployment, low average costs and relatively low tax rates. Its example may
encourage other countries to remove trade restrictions.

(a) Define 'Average Costs' with the aid of an example (05 Marks)

(b) Briefly describe the term "Entrepreneurship". (03 Marks)

(c) "No government intervention in the Open Economy". Briefly explain the statement
with the aid of an example. (04 Marks)

(d) Briefly explain the Economies of Scale with the help of a diagram (06 Marks)

(e) Analyze how the market for a product would be affected by reduction of tax on
product combined with a fall in the price of a complement. (07 Marks)

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Question 06

(a) Identify the factors affecting to price Elasticity of Supply. (04 Marks)

(b) Briefly explain the terms of "De-Merit Goods and Necessary Goods" with the aid of an example. (06 Marks)

(c) Briefly explain the terms of "Cross Price elasticity of Demand" and interpret the coefficient sign of the results. (06 Marks)

(d) Assume, the price of petrol increases from Rs:100 to Rs:110 and demand fall from 8,000 units to 6,000. Calculate the PED of the above commodity. (04 Marks)

(e) Assume your income is increased from Rs: 125,000 to Rs:135,000 and the demand for transportation is decreased from 10 to 20 (Number of trips). Calculate the income elasticity of demand (YED) and interpret the results. (05 Marks)

Question 07

Part - A

(a) Identify 02 (Two) characteristics of a Perfectly Competitive Market. (02 Marks)

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(b) Based on the above diagram, briefly explain the significance of the long run average
cost with the aid of an example. (03 Marks)

Part – B

Briefly describe the following Terms/Concepts with the aid of an example.

Answer any Four (04) Questions

(a) Diseconomies of Scale

(b) Direct Taxes

(c) Subsidies

(d) Inferior Goods

(e) Sunk Cost

(f) Derived Demand

(g) Perfectly Inelastic Supply

(h) Cross Price Elasticity of Demand (4*5 Marks)

-------------------END OF THE QUESTION PAPER----------------

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BSc Hons in Logistics and Transportation
Course CODE: COM551

Year 1 Semester I
SEMESTER END EXAMINATION
Microeconomics – LTME1205

- This paper consists of SEVEN questions on SIX (06) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
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- Write legibly.

Date: 2020.09.30   Pass mark: 50%   Time: 02 Hours

Question 01 (Compulsory)

(a) Define the term of **Economic models** and explain the purpose of using Economic models in Economics.   (04 Marks)

(b) "Economics study to what extent should the government intervene in the economy." Briefly explain the statement.   (04 Marks)

(c) Briefly explain the factors affecting to Transport Demand   (04 Marks)

(d) Identify the difference between **Renewable Resources** and **Non-Renewable Resources**.   (04 Marks)

(e) Identify the characteristics of an underdeveloped country.   (04 Marks)

(f) Find the Point Elasticity of Demand at price of **Rs: 4.0** using the following Demand and Supply functions.

$Q_d = 200 - 10p$

$Q_s = 100 + 15p$ (05 Marks)

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Question 02

There is a smaller proportion of large firms in Africa than in Asia. The two African countries with the largest firms are Nigeria and South Africa. These two countries' firms have more capital goods than most other African countries' firms. Firms in South Africa produce a range of products including gold and petrochemicals. In recent years, a number of African firms have developed into Multinational Companies (MNCs), producing mainly in other African countries.

(a) Define a capital good with aid of an example. (03 Marks)

(b) Briefly explain two challenges faced by the small firms at the long run of their production. (04 Marks)

(c) Define the terms of Short Run and the Long Run of a firm with the aid of an example. (04 Marks)

(d) Analyze, using a demand and supply diagram, how a rise in income may affect the market for gold. (06 Marks)

(e) Discuss whether or not MNCs increase production and productivity in their host countries. (08 Marks)

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Question 03
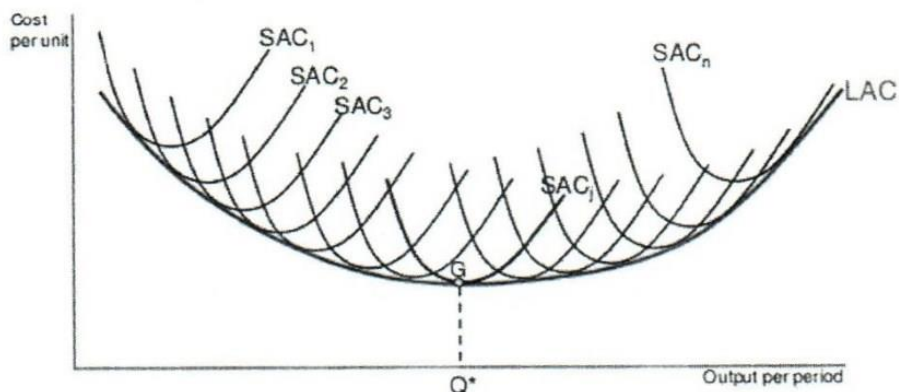
In 2017, the Japanese government announced improvements to its tax system. The amount of tax raised is influenced by the size and age distribution of a country's population.

Japan's birth and death rates are falling, its population is ageing, and it has low immigration. Overall, Japan's population is decreasing.

(a) Define the term of "Tax" and identify the types of taxes related to Transport
   Industry. (04 Marks)

(b) State two qualities of a good tax. (02 Marks)

(c) Analyze how tax increase affects the market economy. (05 Marks)

(d) Analyze, using a production possibility curve (PPC) diagram, the effect of
   decrease in population size on an economy. (06 Marks)

(e) Suppose the Japanese government expect to increase the fuel tax by 10%.
   Analyze the impact of fuel taxes on public transport. You may use suitable diagrams
   to quote your answer. (08 Marks)

Question 04

Consider the following Demand and Supply equations of an ARS Airline.

$Q_{dx} = 350 - 8P_x$
$Q_s = 150 + 12P_x$

(a) Find the equilibrium Price and the Quantity. (04 Marks)

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(b) Illustrate the demand and supply curves in a diagram with the help of demand and supply schedules. (04 Marks)

(c) Find the excess demand and excess supply at the price of Rs: 05 and Rs: 20

(04 Marks)

(d) Find the Consumer Surplus and Producer Surplus. (04 Marks)

(e) Calculate the Deadweight Loss. (03 Marks)

(f) Suppose government impose a unit tax of Rs: 50 for a trip for the entire airlines which landed in Sri Lanka. Calculate the new equilibrium price and the quantity after imposing a unit tax. (04 Marks)

(e) Calculate the total government revenue after imposing a unit tax.

(02 Marks)

Question 05

Singapore is usually ranked as one of the best countries in which to do business. It is an open economy engaging in free trade. It has a history of strong entrepreneurship, low unemployment, low average costs and relatively low tax rates. Its example may encourage other countries to remove trade restrictions.

(a) Define 'Average Costs' with the aid of an example (05 Marks)

(b) Briefly describe the term "Entrepreneurship". (03 Marks)

(c) "No government intervention in the Open Economy". Briefly explain the statement with the aid of an example. (04 Marks)

(d) Briefly explain the Economies of Scale with the help of a diagram (06 Marks)

(e) Analyze how the market for a product would be affected by reduction of tax on product combined with a fall in the price of a complement. (07 Marks)

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Question 06

(a) Identify the factors affecting to price Elasticity of Supply.   (04 Marks)

(b) Briefly explain the terms of "De-Merit Goods and Necessary Goods" with the aid
of an example.   (06 Marks)

(c) Briefly explain the terms of "Cross Price elasticity of Demand" and interpret the
coefficient sign of the results.   (06 Marks)

(d) Assume, the price of petrol increases from Rs:100 to Rs:110 and demand fall from
8,000 units to 6,000. Calculate the PED of the above commodity.   (04 Marks)

(e) Assume your income is increased from Rs: 125,000 to Rs:135,000 and the demand for
transportation is decreased from 10 to 20 (Number of trips). Calculate the income
elasticity of demand (YED) and interpret the results.   (05 Marks)

Question 07

Part - A

(a) Identify **02 (Two)** characteristics of a Perfectly Competitive Market.   (02 Marks)

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(b) Based on the above diagram, briefly explain the significance of the long run average
cost with the aid of an example. (03 Marks)

Part – B

Briefly describe the following Terms/Concepts with the aid of an example.

Answer any **Four (04) Questions**

(a) Diseconomies of Scale

(b) Direct Taxes

(c) Subsidies

(d) Inferior Goods

(e) Sunk Cost

(f) Derived Demand

(g) Perfectly Inelastic Supply

(h) Cross Price Elasticity of Demand (4*5 Marks)

-------------------END OF THE QUESTION PAPER----------------

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Course CODE: COM551

Year 1 Semester I
SEMESTER END EXAMINATION
Introduction to Transportation – LTTR1202

- This paper consists of SEVEN (07) questions on THREE (03) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.09.19   Pass mark: 50%   Time: 02 Hours

Question 01: (Compulsory)

(a) What is meant by a transport **mode**?   (03 Marks)

(b) Briefly explain the history of road development from naturally created worn paths to the modern day roads.   (06 Marks)

(c) The components of a transport system can be separated into 3 categories. Briefly explain each component with appropriate examples.   (06 Marks)

(d) List down 4 (four) sustainable transport options.   (04 marks)

(e) Explain why the demand for transportation is considered a derived demand.   (06 marks)

Question 02

(a) Define the term "Accessibility". Explain factors that affects the accessibility of a transport system.   (12 Marks)

(b) Roads can be classified as Arterial roads, Local roads and Collector roads based on their function. List down properties of arterial roads. (05 Marks)

(c) Briefly explain the 4(four) categories of international road freight transport with examples. (08 Marks)

Question 03

(a) Differentiate between Conventional rail transport and Mass Rapid Transit (MRT) (08 Marks)

(b) What is meant by piracy in maritime transport? Identify methods taken to reduce the risk of maritime piracy. (08 Marks)

(c) Explain the 3(three) types of maritime hazards with examples and list down measures to avoid them. (09 Marks)

Question 04

(a) What are the benefits of applying advances in information technology to transportation? (04 Marks)

(b) Briefly describe the direct, indirect and cumulative impacts of transportation on the environment with examples. (06 Marks)

(c) Explain ways to mitigate the environmental impacts of transportation. (15 Marks)

Question 05

(a) List 4 types of cargo moved by maritime transport with examples for each. (04 Marks)

(b) What is meant by a **charter service** in maritime transportation? (05 Marks)

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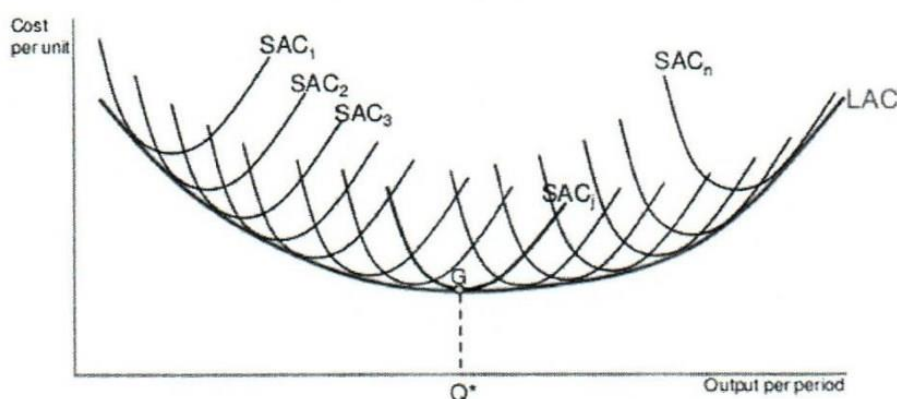BSc Hons in Logistics and Transportation
Course CODE: COM551

(c) Explain the 3(three) types of maritime routes. (06 Marks)

(d) Discuss the importance of maritime transport for global trade. (10 Marks)

Question 06

(a) Air cargo accounts for less than one percent of world trade by volume and 35 percent of world trade by value. Despite the much higher cost, air cargo transport becomes more desirable when cargo has certain characteristics. List down these characteristics with examples. (05 Marks)

(b) Identify the international organization responsible for regulating air transportation and briefly explain. (05 Marks)

(c) Explain the airside and landside components of an airport with examples. (09 Marks)

(d) Briefly explain the 2(two) types of aircraft based on aircraft structure. (06 Marks)

Question 07

(a) 'Pipelines are limited in the markets they serve and very specified in terms of the products they can transport and a unique mode of transport'. Explain. (09 Marks)

(b) Explain the different types of pipelines with the use of a diagram. (08 Marks)

(c) Briefly explain any 2(two) Global economic institutions. (08 Marks)

-------------------END OF THE QUESTION PAPER-----------------

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Year 1 Semester I

SEMESTER END EXAMINATION

English for Business I – LTEB1201

- This paper consists of FIVE questions on TEN (10) pages.
- Answer <u>ALL</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.09.17   Pass mark: 50%   Time: 02 Hours

Section A – Business Vocabulary/ Structures

Question 1

A. Underline the most appropriate word given within brackets. (10 marks)

   (i). People tend to use air (weight/ airbase/ freight) for lighter goods.

   (ii). They (cleaned/ cleared/ clarified) customs by five o' clock.

   (iii). The photocopier is not listed on the (inventory/ agenda/ report)

   (iv). Large quantities of goods are stored in a (barn/ hangar/ warehouse)

   (v). It's wise to insure to (claim/ mitigate/ annihilate) risks.

B. Complete sentences putting words in the correct order. (10 marks)

   (i). If ....

   ....

   (would/ was/ do/ differently/ charge/ I/ in/ I/ things).

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(ii). Company ....

....

(5%/ last year/ lower/ profits/ were/ than)

(iii). All ....

....

(bank/ on/ monthly/ a/ appear/ statement/ appear/ transactions)

(iv). Liquid ....

....

(sold/quickly/ be/ more/can/ assets)

(v). The company ....

....

(Rs.90 million/ have/ of/ reported/liabilities/ nearly/ to/ is)

Section B – English in Pragmatic/ Realistic Settings

Question 2

A. Form the appropriate questions that match the replies in the given situations. Look

at the example. (10 marks)

Example: *How much* did you pay for the carton of milk?

I paid Rs.150/- for the carton of milk.

(i). Which .... ?

I want to buy the blue bike.

(ii). For .... ?

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The provisions are sufficient for five days.

(iii). Who .... ?

The tenant is responsible for repairs.

(iv). Why .... ?

Hundreds of firms went bankrupt because of Covid-19.

(v). How long .... ?

He was placed on probation for two years.

B. Report the following ideas expressed, questions raised and requests made at a meeting. Look at the example. (10marks)

Example: The manage said, "I am in fact happy about the company's overall

performance last year."

The manager said that he was happy about the company's overall

performance the year before.

(i). The accountant said, "The profits will increase by 15% next year."

....

(ii). The manage asked, "Are all employees present today?"

....

(iii). An employee requested, "Please consider giving us an increment."

....

(iv). Mr. William said, "I was absent at management meeting yesterday."

....

(v). The manager asked, "How much did we spend on advertising last month?"

....

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Section C – Comprehension

Question 3

A. Read the following definitions and underline <u>the wrong statement.</u> (12 marks)

I. Economies of scale is an important issue for companies both large and small. The term has been around for hundreds of years and has fueled the development and profit potential of entire economies especially with the concept of mass production. Economists say that economies of scale were a significant driving force behind the industrial revolution. Economies of scale cuts production unit costs and creates stronger consumer demand by offering products with lower costs to customers.

(a). Small and large companies can benefit from economies of scale.

(b)Economies of scale is relatively a modern term.

(c). Economies of scale can reduce unit production.

(d). Economies of scale had a strong influence in industrial revolution.

II. A rationale for research is a set of reasons offered by a researcher for conducting more research into a particular subject. Explaining the purpose of a research study and providing a compelling rationale is an important part of any research project enabling the work to be set in the context of both existing theory, evidence and its practical applications. This necessitates formulating a clear research question, deriving specific research objectives and thereby justify contextualizing the study.

(a). The rationale explains the reasons for carrying out a study.

(b). The rationale answers the need for choosing one specific study than another.

(c). The rationale also takes into consideration the situation in which research is carried

out.

(d). The rationale doesn't help to form a clear research problem.

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III. In statistics vocabulary, we often deal with the terms parameter and statistic which play a vital role in the drawing of conclusions. Parameter refers to a measure which describes population. Statistic is a measure which describes a fraction of a population. The common use of statistic is to estimate a particular population parameter.

(a). A numerical value obtained from a population is a parameter.

(b). A statistic is a measure calculated from all the elements.

(c). A parameter is a fixed measure of the population.

(c). A statistic is a statistical measure of a part of population

B. Think logically and underline the letter of the correct answer. (08 marks)

I. Modus Tollendo Ponens, also known as disjunctive syllogism can be expressed in natural language as : if either of two statements is true, and one of them is not true, it follows that the other one is true. Once you eliminate the impossible, whatever remains, no matter how improbable must be the truth. The symbolic form of modus tollendo ponens is P v Q. ~ P. ∴ Q. Accordingly, either the defendant committed the murder or the plaintiff has made a false accusation. Therefore, what can you conclude,

(a). the defendant committed the murder

(b). the plaintiff made a wrong accusation

(c). a premise is missing

(d). the defendant didn't commit the murder

II. Ajith, Bimal, Cicil, Dayan and Eric are standing in a row. Ajith is standing behind Eric but in front of Dayan. Cecil is standing behind Eric. If Bimal is standing in the extreme front, who is standing last in the row?

(a). Ajith

(b). Cecil

(c). Dayan

(d). Eric

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Section D - Presenting Information

Question 4

A. Present the following information in a pyramid. (10 marks)

Most large and complex organizations in the government and the business world utilize a bureaucratic structure. This has two fundamental characteristics. First, it is hierarchical, second it is governed by a set of objective laws, rules and procedures. Hierarchy is a way to structure an organization using different levels of authority and a vertical link or a chain of command between superior and subordinate levels of the organization. Higher levels control the lower levels of the hierarchy. Design a hierarchy flow chart using the following posts in an organization: Supervisors/ Employees/ Department Heads/ VPs/ Board / President

Use a management pyramid to represent the data.

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B. For what function are these sentence patterns used. Write the letter of the function

   in the given brackets. (10 marks)

   (a). Show a similarity

   (b). Show a difference

   (c). Give evidence

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(d). Compare a trend

(e). Contrast a trend

(i). Expenditure on the former dropped steadily from ten percent to five percent and on the latter from six percent to three percent. [..........]

(ii). Thus, by the end of the period, the highest proportion of household expenditure went on food and the lowest on fuel. [.........]

(iii). Like state universities, private universities aim to develop knowledge, skills and character of students. [.........]

(iv). Unmanned missions are much less expensive than manned, having no requirement for airtight compartments, food or life support systems. [.........]

(v). In contrast, private universities can offer a greater choice of subjects, because they generally have more money to spend on equipment, technology and staff. [.........]

(vi). Young people begin smoking for a variety of reasons, such as pressure from peers and the role model of parents. [.....;...]

(vii). The boys prefer competitive games whereas the girls enjoy cooperative activities like shopping with friends. [.........]

(viii). Most of the boys do more than two hours of sport a week, as do many of the girls. [..........]

(ix). Figure 2 reveals that there has been a marked increase in the number of single parents in England and Wales since 1981. [.........]

(x). The expenses on education form approximately half of the income from 2000 to 2015. On the contrary, loans and mortgage form more than half from 1985 to 2000. [..........]

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Section E – Business Writing

Question 5

The following tables give some information about the profits and numbers of guests at Relax Sea Fortress, a leading hotel in Sri Lanka. (20 marks)

Write a report on the annual performance of Relax Sea Fortress Hotel supporting your ideas in the report by facts and figures given in the following tables.

Use about 200 words.

Reports are divided into sections with subheadings. So you are expected to use the suggested format given.

Relax Sea Fortress Hotel, Annual Profits

2017	2018	2019
Rs.32.3 million	Rs.34.4 million	35.2 million

Average monthly occupancy rate in 2019

Jan	Feb	March	April	May	June
56%	63%	69%	79%	77%	94%
July	Aug	Sept	Oct	Nov	Dec
98%	100%	82%	66%	54%	58%

Restaurant: Average percentage of restaurant diners not staying in hotel in 2019.

Jan-Mar	April-June	July-Sept	Oct-Dec
67%	51%	47%	52%

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Use the following format: Title – Introduction – Profits and Occupancy- Specific Facilities – Recommendations

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Year 1 Semester I
SEMESTER END EXAMINATION
Principles of Management – LTPM1207

- This paper consists of SEVEN questions on THREE (03) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.09.12   Pass mark: 50%   Time: 02Hours

Question 01: (Compulsory)

Professor Henry Mintzberg has introduced ten managerial roles model in order to identify the complex role of a manager in a typical organizational environment. Explain the figurehead, monitor, entrepreneur, spokesperson and the negotiator roles in the model with appropriate examples.   (25 Marks)

Question 02

(a)   "Technological environmental force was quite helpful for many organizations to survive during the Covid-19 pandemic situation in the year 2020"
Do you agree with the above statement? Justify your answer with appropriate examples.   (10 Marks)

(b)   Briefly explain the Maslow's hierarchy on motivation. Support your answer with appropriate examples.   (15 Marks)

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Question 03

(a) List down the benefits of self-directed work teams for an organization

(05 Marks)

(b) Appreciate the managerial styles introduced by Blake and Mouton in managerial grid. (20 Marks)

Question 04

Freshco is a large scale dairy manufacturer in Sri Lanka which is a multinational company. As a CSR project by the organization, 60% of the fresh milk that they use for their production is purchased from local farmers. Low cost leadership is a strategy used by the organization to expand the market share locally. Their annual supplier evaluation is done referring the below mentioned criterions and the actual data collected by the suppliers are available in the table mentioned below.

	Criterion/Supplier	Lanka Dairy Ltd.	Everyday Milk (Pvt) Ltd.	White Milk Corporation	Dolawatte Milk suppliers
01	Milk price (01 L)-Rs	50	51	55	53
02	On-Time Delivery	99%	98%	98%	99%
03	Flexibility of the service	Good	Very Good	Good	Average
04	Quality Compliance	97%	95%	98%	97%
05	Supplier participation or collective decision making	Average	Very Good	Good	Very Good

You are required to assign weights for the above decision criterions as per your own judgment and rate the above supplies. You may provide appropriate independent prioritization for each supplier based on your evaluation and select the best supplier

(25 Marks)

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Question 05

(a) Employee creativity is the core to success for many organizations in today's competitive business world. Assume that you are a manager in a reputed 3PL business organization and explain how you are going to   enhance   your employees' creativity in order to provide innovative logistics solutions to your clients.   (10 Marks)

(b) Change curve is determined how the individuals positively and negatively respond to the changes.

Assume that you are a manager and going to shift your factory to a new place away from Colombo. This is decision obviously affect for your employees' and unions' attention due to the changes of their day today way of working and routines.

Explain how you are going to successfully handle the issues and support your people and get their commitment for the change.   (15 Marks)

Question 06

Write short notes on **five selected topics**, mentioned below

(i)   Functional structure of departmentalization
(ii)   Public pressure groups in Task environment
(iii)   Role of the Mission statement in an organization
(iv)   Concurrent controlling
(v)   Emotional intelligence in effective communication
(vi)   Job specialization   (25 Marks)

Question 07

(a) Distinguish the terms "Job description" and "Job Specification" (10 Marks)
(b) Effective communication is vital for successful decision making and execution in an organization. Briefly explain five (05) communication barriers in an organizational environment.   (15 Marks)

--------------------END OF THE QUESTION PAPER-----------------

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Year 1 Semester I

SEMESTER END EXAMINATION

Introduction to Logistics - LTIL1306

- This paper consists of EIGHT questions on SIX (06) pages.
- Answer <u>FIVE</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.09.08   Pass mark: 50%   Time: 03 Hours

Question 01 (Compulsory)

(a) Define the term "Logistics"   (05 Marks)

(b) Briefly explain what is a heavy outbound logistics system and give a suitable industry example   (05 Marks)

(c) Explain in detail any TWO of the "Rights" from the concept of 7R's of Logistics by using a suitable example of your own, from the perspective of a customer

(10 Marks)

Question 02

(a) Explain what is meant by "Intermodal Transportation"   (03 Marks)

(b) Explain the selection decision of the best mode of transportation for a **shipment of" dairy products"**, to be imported from America to Sri Lanka, **a shipment of "jewelry"**

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**to be exported from Sri Lanka to Singapore and a shipment of "vegetables" to be
transported from Nuwaraeliye to Kandy.** Justify your answer (09 Marks)

(c) Distinguish between the terms Domestic and Global Logistics? (08 Marks)

Question 03

(a) List down the steps of the customer order cycle (06 Marks)

(b) Explain TWO factors affecting the order processing time (04 Marks)

(c) Explain in detail any FIVE activities carried under order processing (10 Marks)

Question 04

(a) List down the FOUR types of warehouses and explain any TWO of them in detail

(05 Marks)

(b) Material handling is an important warehouse management activity. Explain what
material handling is and explain two material handling equipment which are used
for the horizontal movements in a warehouse. (06 Marks)

(c) Discuss the evolution of Logistics Organizations up to the "Present Stage",
highlighting changes when moving from one stage to another. (05 Marks)

(d) Define the term "3PL" Provider (04 Marks)

Question 05

(a) Briefly explain what is "Inventory" (02 Marks)

(b) Among the costs of inventory, "stock out" cost has resulted in massive customer
complaints, leading to a loss of valuable customers in many companies. Briefly
explain this statement. (03 Marks)

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(c) "Novel Pvt.Ltd." is a large scale biscuit manufacturing company which supplies biscuits to several customers in Sri Lanka. Considering the "Chocolate Biscuit" production, Sales and Marketing Department has forecasted the annual demand as 6000 biscuit packets and the Production Plan continues to run for 300 days. The cost of a "Chocolate Biscuit" packet is expected to be 50 LKR. The cost of processing an order is calculated to be 200 LKR per order and the supplier agrees to make the shipment available at the plant 01 week after placing the order. The company has decided to maintain the carrying cost per "Chocolate biscuit packet at, 10% of the total. Accordingly,

     (i) Calculate the EOQ

     (ii) What is the number of orders per year?

     (iii) Calculate the annual ordering cost

     (iv) Calculate the annual holding cost

     (v) Calculate the total annual inventory cost

     (vi) Determine the Re-Order Point   (15 Marks)

Question 06

(a) Briefly explain six reasons behind the decision of a company choosing to go for "Buying" option rather than "Making" option.   (05 Marks)

(b) Briefly explain the importance of e-procurement.   (05 Marks)

(c) Among the three macro-environmental factors affecting global logistics, select one and explain in detail?   (10 Marks)

Question 07

(a) The Logistics Manager at "Reliance" Group which produce 'wrist watches' want to forecast the sales for the year 2020. The historical data of sales for Year 2019 is as follows:

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Table 1.00: Historical sales data (Actual Demands) for Year 2019

Year					2019		
Month	June	July	Aug	Sep	Oct	Nov	Dec
Demand	500	400	150	450	300	500	400

    i.   The Naïve forecast for the month of January 2020
    ii.   The four- month Simple Moving Average forecast for January 2020
    iii.   The Weighted Moving Average forecast for January 2020 using the weights 0.15, 0.23, and 0.33
    iv.   The Exponential Smoothing forecast for December 2019 with $\alpha = 0.42$ (Assume the forecast for November is 460 units)
    v.   The Exponential Smoothing forecast for January 2020 with $\alpha = 0.42$

(10 Marks)

b) Using the data given below, calculate the:

Table 2.00: Forecasted and Actual Demand information for ten quarters

Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Forecast	412	421	345	423	358	400	380	395	420	430
Actual	400	450	380	458	367	390	390	400	422	425

    i.   Forecasting error at each quarter
    ii.   Running sum of Forecast Errors
    iii.   Interpretation of the Running Sum of Forecast Errors
    iv.   Mean Absolute Deviation
    v.   Mean Squared Error

(10 Marks)

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Question 08

Write short notes on any FOUR of the following topics   (4*5 Marks)

    (a) Risks associated with 3PL providers

    (b) History of Logistics Organizations

    (c) Benefits of automating sales order processing

    (d) Business Logistics Systems

    (e) Costs of Inventory Management

    (f) Benefits of e-procurement

--------------------*END OF THE QUESTION PAPER*-----------------

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Attachment

<u>Equations for Calculations</u>

$C_{(T)}$ or Total Cost of Inventory= $(Q/2) * H + (D/Q) * S$ ['Q' can be replaced with 'Qo' depending on the purpose of the calculations]

$C_{(H)}$ or Total Annual Inventory Holding Cost = $(Q/2) * H$ ['Q' can be replaced with 'Qo' depending on the purpose of the calculations]

$C_{(O)}$ or Total Annual Inventory Ordering Cost = $(D/Q) * S$ ['Q' can be replaced with 'Qo' depending on the purpose of the calculations]

Q_0 or Economic Order Quantity = $\sqrt{(2DS/H)}$

Re-Order Point = $(d * L) + SS$

....

F_t (Forecast Using Exponential Smoothing) = $F_{(t-1)} + \alpha [A_{(t-1)} - F_{(t-1)}]$

E_t (Forecast Error) = $A_t - F_t$

RSFE (Running Sum of Forecast Errors) = $\sum E_t$

MAD (Mean Absolute Deviation) = $\dfrac{\sum |A_t - F_t|}{n}$

MSE (Mean Squared Error) = $\dfrac{\sum [A_t - F_t]^2}{n}$

MAPE = $\dfrac{\sum \left[\dfrac{|A_t - F_t| * 100}{A_t} \right] \%}{n}$

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Year 1 Semester I

SEMESTER END EXAMINATION

Introduction to Logistics - LTIL1306

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Date: 2020.09.08   Pass mark: 50%   Time: 03 Hours

Question 01 (Compulsory)

(a) Define the term "Logistics"   (05 Marks)

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(10 Marks)

Question 02

(a) Explain what is meant by "Intermodal Transportation"   (03 Marks)

(b) Explain the selection decision of the best mode of transportation for a **shipment of" dairy products"**, to be imported from America to Sri Lanka, **a shipment of "jewelry"**

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to be exported from Sri Lanka to Singapore and a shipment of "vegetables" to be transported from Nuwaraeliye to Kandy. Justify your answer (09 Marks)

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(a) List down the steps of the customer order cycle (06 Marks)

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(a) List down the FOUR types of warehouses and explain any TWO of them in detail

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(b) Material handling is an important warehouse management activity. Explain what material handling is and explain two material handling equipment which are used for the horizontal movements in a warehouse. (06 Marks)

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(b) Among the costs of inventory, "stock out" cost has resulted in massive customer complaints, leading to a loss of valuable customers in many companies. Briefly explain this statement. (03 Marks)

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(c) "Novel Pvt.Ltd." is a large scale biscuit manufacturing company which supplies biscuits to several customers in Sri Lanka. Considering the "Chocolate Biscuit" production, Sales and Marketing Department has forecasted the annual demand as 6000 biscuit packets and the Production Plan continues to run for 300 days. The cost of a "Chocolate Biscuit" packet is expected to be 50 LKR. The cost of processing an order is calculated to be 200 LKR per order and the supplier agrees to make the shipment available at the plant 01 week after placing the order. The company has decided to maintain the carrying cost per "Chocolate biscuit packet at, 10% of the total. Accordingly,

   (i) Calculate the EOQ
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   (iii) Calculate the annual ordering cost
   (iv) Calculate the annual holding cost
   (v) Calculate the total annual inventory cost
   (vi) Determine the Re-Order Point   (15 Marks)

Question 06

(a) Briefly explain six reasons behind the decision of a company choosing to go for "Buying" option rather than "Making" option.   (05 Marks)
(b) Briefly explain the importance of e-procurement.   (05 Marks)
(c) Among the three macro-environmental factors affecting global logistics, select one and explain in detail?   (10 Marks)

Question 07

(a) The Logistics Manager at "Reliance" Group which produce 'wrist watches' want to forecast the sales for the year 2020. The historical data of sales for Year 2019 is as follows:

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    iv. The Exponential Smoothing forecast for December 2019 with $\alpha = 0.42$ (Assume the forecast for November is 460 units)

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(10 Marks)

b) Using the data given below, calculate the:

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Actual	400	450	380	458	367	390	390	400	422	425

    i. Forecasting error at each quarter

    ii. Running sum of Forecast Errors

    iii. Interpretation of the Running Sum of Forecast Errors

    iv. Mean Absolute Deviation

    v. Mean Squared Error

(10 Marks)

Question 08

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(c) Benefits of automating sales order processing

(d) Business Logistics Systems

(e) Costs of Inventory Management

(f) Benefits of e-procurement

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Attachment

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....

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E_t (Forecast Error) = $At - Ft$

RSFE (Running Sum of Forecast Errors) = $\sum Et$

MAD (Mean Absolute Deviation) = $\dfrac{\sum |At - Ft|}{n}$

MSE (Mean Squared Error) = $\dfrac{\sum [At - Ft]^2}{n}$

MAPE = $\dfrac{\sum \left[\dfrac{|At - Ft| * 100}{At} \right] \%}{n}$

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Year 1 Semester II
SEMESTER END EXAMINATION
Financial and Cost Accounting – LTFA1208

- This paper consists of SEVEN questions on FIFTEEN (15) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.03.11   Pass mark: 50%   Time: 02 Hours

Question 01 (Compulsory)

ZINTA LOGIWIZ PLC (ZLP) is a Sri Lankan subsidiary of UK parent company ZINTA UK which is engaged in the operations such as logistics, shipping, freight forwarding and freight handling.

Trial balance as at 31.03.2019 is as follows.

All figures are in US $ Thousands (US $,000 S)

Description	Debit	Credit
Revenue		785,000
Inventory as at 01st April 2018	350,000	
Purchases	162,500	
Sales returns	56,800	

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Purchase Returns		1,520
Carriage inwards	15,480	
Corporate Bonds @ 18 % interest		106,500
Dividends Income		60,760
Legal & Consultation charges	15,500	
Cost :		
Furniture & Fittings	165,000	
Motor vehicles	152,000	
Land	185,000	
Buildings	155,000	
Provision for Depriciation- Furniture & Fittings		62,500
Provision for Depriciation-Motor vehicles		18,000
Provision for Depriciation- Buildings		15,000
Fixed Deposit @ 18% p.a	56,000	
Goodwill	8,500	
Employee Remuneration	4,150	
Maintenance Expenses	350	
Advertising and Promotion	3,800	
Courier charges	24,750	
Defined benefit plans provision as at 31.03.2018		145,000
Auditor's remuneration	11,500	
Utility expenses	15,000	
Fuel expenses	27,500	
Insurance expenses	32,000	

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Debentures @ 12% interest p.a		162,800
Bank Loan @ 17 % interest rate per annum		153,500
Cash and Cash Equivalents	215,000	
Short term loan @ 12% interest		33,800
Stated Capital($ 10 each)		105,600
Preference Share Capital ($ 10 each)		71,200
Retained Earnings as at 31.03.2018		3,000
Trade Receivables	131,500	
Trade Payables		27,400
Other Payables		20,750
Doubtful debt provision as at 31.03.2018		15,000
Total	1,787,330	1,787,330

Following are the adjustments which should be made in the financial statements for 2018/2019 financial year. (All figures are in US $)

(1) Following expenses are accrued and prepaid as at 31st March 2019.

Advertising and Promotion- Accrued	300,000
Utility expenses-Accrued	75,000
Courier Charges-Accrued	375,000
Insurance – Prepaid	75,000

(2) ZLP operates in a land which is belonging to it. This has been revalued by a professional valuer for $ 250,000,000.

(3) For 2018/2019 depreciation expenses has not been charged.

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Building and Motor vehicle Depreciate based on the straight-line method while furniture and fittings based on the reducing balance method.

Buildings – 18.5 % per annum.

Motor vehicles-   12.5% per annum.

Furniture & Fittings-   16.5% per annum.

(4) There are more than 6 months outstanding debtors as at the year end amounting to $ 19,500,000. Company's policy is to write off any debtor who is exceeding 180 days of credit period.

(5) General policy of the company is to make 17% as doubtful debts from the outstanding   debtor balance as at the year end after write off the debtors.

(6) Corporate tax rate imposed by Inland Revenue Department (IRD) of Sri Lanka is 35 % Per annum. For 2018/2019   year of assessment income tax has not been adjusted.

(7) Inventory as at 31.03.2019 amounting to $ 1, 500,000.

(8) Any adjustment related to the interest not being properly made in the accounts.

Required:

(a) Prepare statement of profit and loss and other comprehensive income for the financial year 2018/2019 for publication purpose.   (10 Marks)

(b) Prepare the statement of financial position as at 31st March 2019 for publication purpose.   (10 Marks)

(c) Prepare the property, plant and equipment note.   (05 Marks)

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Note:

- Candidates should follow LKAS 1 / IAS 1 for the "Preparation and Presentation of Financial Statements" for the format and the preparation guidelines of financial statements for publication purpose.

- All the workings should be shown in a separate page.

Question 02

Stella Goods operates a single-product business manufacturing and selling special appliances.

Items	Amounts
Annual Volume	8000 units
Selling Price Per Unit	Rs 70
Variable manufacturing cost per unit	Rs.18
Annual fixed manufacturing costs	RS.52 000
Variable marketing and distribution costs per unit	Rs.12
Annual fixed non-manufacturing costs	Rs.18 000

Required:

(a) Calculate the break-even units (BEP) and interpret the answer in words

(05 marks)

(b) Calculate the margin of safety (MOS) in units and interpret the answer in words

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(05 marks)

(c) Calculate the profit achievable in 2019. (05 marks)

(d) Draw and label the BEP and MOS in graph. (05 marks)

The business manager believes there could be an increase in costs in the coming year. Variable costs might increase by Rs.5 per unit, and, annual fixed manufacturing costs might increase by Rs. 8 000. If this happens, the manager will want to raise the selling price to Rs. 80 per unit. Therefore, if the business wants to make the same profit (as calculated in part c), then, how many units will they need to make to achieve this same desired profit, if the above increases occur? (05 marks)

Question 03

(a) Explain the procedure of establishing a standard costing system. (05 marks)

(b) What are the reasons for adverse variances in material and labor? (05 marks)

(c)

X Ltd uses the Standard Costing system. In December 2016, the budgeted production/sale were 19,200 units and standard cost card is as follow. Budgeted fixed overhead for the month is Rs.345,600.

	Per unit (Rs.)
Direct Materials (2kg at Rs10/- each)	20
Direct Labour (3 hours at Rs.24/- per hour)	72
Variable overhead (Rs.8 per labour hour)	24
Fixed Overhead (Rs.6 per labour hour)	18
Total	134

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Actual information for the month

Direct Material Purchase	Rs.392,000 (40,000kg)
Actual production	19,000 units
Labor cost	Rs.1,364,000 (62,000 hours)
Variable Overhead cost	Rs.558,000
Fixed Overhead cost	Rs. 361,000

Calculate the material, labor, variable overhead and fixed overhead variances.

(15 marks)

Question 04

(a) Briefly discuss the cost classification with the examples.   (05 marks)

(b) What are the assumptions and limitations of the breakeven analysis?

(05 marks)

(c) Distinguish between the financial accounting and management accounting.

(05 marks)

(d) Briefly explain the usefulness of cost and management accounting information for a logistics and transportation related businesses.   (05 marks)

(e) What are the qualitative characteristics of the financial information?

(05 marks)

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Question 05

From the following information relating to Magni Cision Biki Shop, prepare

    (a) A Transactions Analysis Chart   (08 marks)

    (b) An Income Statement for the month of March 2019.   (08 marks)

    (c) A Statement of Financial Position as at 31 March 2019.   (09 marks)

Magni Cision Biki Shop

Statement of Financial Position as at 28 February 2019

Assets	$	Liabilities	$	$
Fixtures & Fittings	27 500	Creditor – Nick Flora	4 400	
Delivery Vehicle	93 500	Creditor – Tim Tom	6 600	
Cash on Hand	110	Bank Overdraft	12 320	23 320
Furniture	13 200			
Equipment	44 000			
Debtor – Sloow Topay	5 500	Owners Equity		
Shop Building	660 000	Capital – Jane C		820 490
	843 810			843 810

During March 2019 the following transactions occurred:

Mar 1   Received $1 100 from debtor – Sloow Topay

      2   Purchased stock for $11 000 cash

      3   Purchased new furniture for $22 000 cash

      4   Jane C took equipment (which cost $1 100) home for her own use

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5   Credit sales of stock to Sweet Tof, $11 550

6   Purchased stock for $8 800 cash, and $22 000 on credit from Tim Tom

8   Paid one months' rent $2 200, in cash

11   Equipment costing $11 000 was purchased on credit from Kuality Cakes

     (a deposit of $2 750 cash was paid)

16   Cash sales of stock, $12 100

17   Jane C withdrew $550 cash for his own use

21   Paid creditor Tim Tom $5 500 cash

25   Received $1 100 from Debtor – Sloow Topay

26   Credit sales of stock to Wally K, $13 200

27   A loan of $55 000 was received from Honey Finance and deposited it into the

     business bank account

29   Cash sales of stock, $22 000 31   Paid staff wages for the month $4 620 in
cash

Question 06

Use the following information to complete the ratio analysis calculations:

Vanderful Tym Suppies
Income Statement for the year ended June 30 2019

	2018	2019
	$	$
Sales (all credit)	2 550 000	2 890 000

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Less Cost of Sales		
Opening Stock	76 500	93 500
Plus Purchases	1 071 000	1 190 000
	1 147 500	1 283 500
Less Closing Stock	93 500	127 500
Cost of Sales	1 054 000	1 156 000
Gross Profit	**1 496 000**	**1 734 000**
Less Operating Expenses		
Selling and Administration Expenses	892 500	892 500
Operating Expenses before Interest	**892 500**	**892 500**
Net Profit before Interest	603 500	841 500
Interest Paid	(21 250)	(18 700)
Net Profit after Interest	**582 250**	**822 800**

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Vanderful Tym Supplies - Balance Sheet as at June 30 2017 and 2018

	2018	2019
Assets	$	$
Current Assets		
Cash at Bank	34 000	
Debtors	85 000	136 000
Stock	93 500	127 500
Prepaid Expenses		8 500
Total Current Assets	**212 500**	**272 000**
Non-Current Assets		
Equipment	17 000	51 000
Buildings .	510 000	595 000
Vehicles	102 000	102 000
Plant	850 000	850 000
Total NCA	**1 479 000**	**1 598 000**
Total Assets	**1 691 500**	**1 870 000**
	2018	2019
Liabilities	$	$
Current Liabilities		

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Bank Overdraft		68 000
Creditors	90 950	85 000
Total Current Liabilities	**90 950**	**153 000**
Non-Current Liabilities		
Mortgage Loan - The Lottamonee Bank	216 750	119 000
Total Liabilities	**307 700**	**272 000**
Owners Equity		
Paid-Up capital	867 000	867 000
Retained Profits	516 800	731 000
Total O.E.	**1 383 800**	**1598 000**
Totals	**1 691 500**	**1 870 000**

Additional Information

- opening debtors 2018 was $127 500
- opening total assets 2018 was $1 275 000

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Part A

Calculate the following ratios for 2018 and 2019

I.   current ratio

II. quick asset ratio

III. return of equity

IV. net profit margin

V.   gross profit margin

VI. operating expense ratio

VII. stock turnover (times per year)

VIII. stock turnover (in days)

IX. debtors turnover (times per year)

X.   debtors turnover (in days)

(18 marks)

Part B

Make a one-sentence statement indicating whether each ratio indicates **improvement** or **decline** or **no change** from 2018 to 2019.   (03 marks)

Part C

The business wants to compare its performance with other businesses in the same industry in relation to profit margins and turnover rates. Current industry averages for 2019 are as follows.

- net profit margin – 27%
- stock turnover – 24 days
- debtor's turnover – 22 days

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How does this business compare in 2019 to the above industry averages? Better or

worse?   (04 marks)

Question 07

(a) Discuss advantages and limitations of standard costing system.   (07 marks)

(b) P&G company produces many products for household use. Company sells
products to storekeepers as well as to customers. Detergent-DX is one of the
products of P&G. It is a cleaning product that is produced, packed in large boxes
and then sold to customers and storekeepers. P&G uses a traditional standard
costing system to control costs and has established the following materials, labor
and overhead standards to produce one box of Detergent-DX:

- Direct materials; 1.5 pounds @ $12 per pound: $18.00
- Direct labor; 0.6 hours $24 per hour: $14.40
- Variable manufacturing overhead; 0.6 hours @ $5.00: $3.00During August 2012,
  company produced and sold 3,000 boxes of Detergent-DX. 8,000 pounds of direct
  materials were purchased @ $11.50 per pound. Out of these 8,000 pounds, 6,000
  pounds were used during August. There was no inventory at the beginning of
  August. 1600 direct labor hours were recorded during the month at a cost of
  $40,000. The variable manufacturing overhead costs during August totaled
  $7,200.

Required:

(i) Compute materials price variance and materials quantity variance. (Assume that
the materials price variance is computed at the time of purchase.)   (06 marks)

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(ii) Compute direct labor rate variance and direct labor efficiency variance.

(06 marks)

(iii) Compute variable overhead spending variance and variable overhead efficiency
variance. (06 marks)

---------------END OF THE QUESTION PAPER-----------

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Course CODE: COM551

Year 1 Semester II
SEMESTER END EXAMINATION
Mathematics for Business II – LTMB1214

- This paper consists of SEVEN questions on SIX (06) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.03.06   Pass mark: 50%   Time: 02 Hours

Question 01 (Compulsory)

(a) A company makes two products X and Y using two machines A and B. The processing time for each unit of X on machine A is 50 minutes and on machine B is 30 minutes. Each unit of Y takes 24 minutes of processing time on machine A and 33 minutes of processing time on machine B. At the beginning of the week, there are 30 units of X and 90 units of Y in stock. Available processing time for machine A is 40 hours and for B is 35 hours. The demand for the week is 75 units of X and 95 units of Y. The company policy is to maximize the combined sum of the units of X and the units of Y in stock at the end of the week. Formulate a Linear Programming model to calculate the number of units of each product to be made for the week (Don't solve this).

(08 Marks)

(b) State whether following proposition is true or false. Justify your answer.

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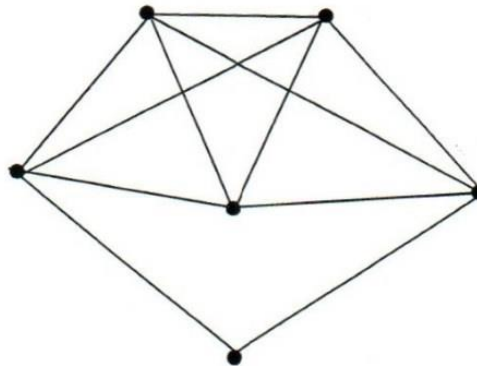BSc Hons in Logistics and Transportation
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$$\forall x \in [-3, 4[\, , 5 - 2x^3 > 0$$

(06 Marks)

(c) Determine the definite integral $\int_{-4}^{2} |x^2 + 1|\, dx$.

(06 Marks)

(d) Check the following Graph is Eulerian graph or Not? Justify your answer.

(08 Marks)

(e) Consider the following function F.

$$F(x, y) = 3x^4 - 5x^3 y^3 + e^{x^2 + y^2}$$

Find the following partial derivatives with respect to x and y.

$$\frac{\partial F}{\partial x}, \frac{\partial F}{\partial y}, \frac{\partial^2 F}{\partial y \partial x}$$

(06 Marks)

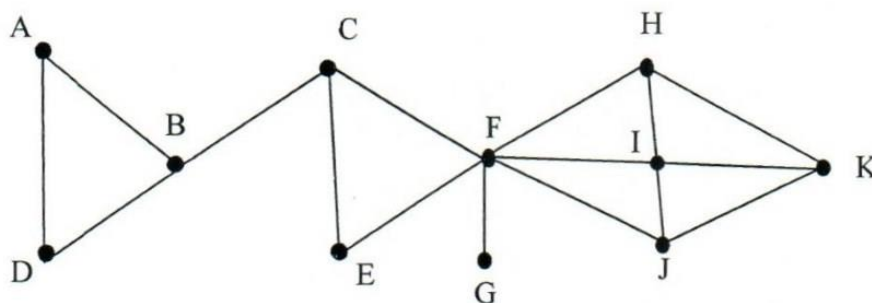(f) Consider the Complete Graph of n vertices. Prove that Graph contains (n)(n-1)/2 number of edges

(06 Marks)

Question 02

(a) What is a bridge? Identify the bridges in the following graph.

(05 Marks)

(b) Draw the following graphs and check the planarity.

(i) K_3 (ii) $K_{7,4}$

(08 Marks)

(c) Find a 4-regular graph on 11 vertices, such that there is at least one 5-cycle and one 6-cycle (a r-regular graph is a graph where each vertex has degree r).

(07 Marks)

Question 03

A carpenter makes tables and chairs. Each table can be sold for a profit of Rs. 30 and each chair for a profit of Rs. 10. The carpenter takes 6 hours to make a table and 3 hours to make a chair and spends up to 40 hours per week, working. According to the customer demand, he should make at least three times as many chairs as tables. Tables take up 4 times as much storage space as chairs and there is space for at most 4 tables each week.

(a) Build a Linear Programming Model for this problem.   (05 Marks)

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(b) Use Graphical method to solve the above Linear Programming model.

(15 Marks)

Question 04

The following is a diet chart which gives calories, proteins, carbohydrates and fat content for 4 food items. Peter wants a diet with minimum cost.

	Food item1	Food item 2	Food item 3	Food item 4
Calories	400	200	150	500
Protein (grams)	3	2	0	0
Carbohydrates (grams)	2	2	4	4
Fat (grams)	2	4	1	5
Cost (Rs.)	5	2	3	8

The diet must be planned in a manner such that it includes 500 calories, 6 grams of protein, 10 grams of carbohydrates and 8 grams of fat. Formulate a Linear Programming model to determine a suitable diet plan for Peter, minimizing the cost.

(20 Marks)

Question 05

(a) Solve the following equations for x ($log_e = ln$).

    (i) $log_3(\frac{3x}{4x+5}) = 2$

    (ii) $\frac{-2ln(3x)}{2-ln(3x)} = 6$

(05 Marks)

(b) Consider the following function F.

$$F(x,y,z) = x^3y^4z - 3x^2y + y^3 + x^2z^2$$

Find the following partial derivatives with respect to x, y and z.

(i) $\frac{\partial F}{\partial x}$ (ii) $\frac{\partial F}{\partial y}$ (iii) $\frac{\partial^2 F}{\partial x \partial y}$ (iv) $\frac{\partial^3 F}{\partial z \partial x \partial y}$

(08 Marks)

(c) If the acceleration of an object at a given time "t" is given by $a(t) = t^2 + 3t + 12$, calculate the displacement of the particle from $t = 1$ to $t = 2$, given the initial velocity of the particle $v(0) = 2$.

(07 Marks)

Question 06

(a) Suppose a simple graph has 35 edges, 4 vertices of degree 1, and all others of degree 3. How many vertices does the graph has?

(06 Marks)

(b) Calculate the area enclosed by $y = -3x^2 + 7$ and $y = 0$

(08 Marks)

(c) Simplify the following expression.

$$3 \log(xy) - \log(x) - \log(xy^2)$$

(06 Marks)

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Question 07

(a) Determine the following indefinite integral. (a is a constant)

$$\int (3e^t + 5\cos at)\, dt$$

(04 Marks)

(b) Determine the following definite integral.

$$\int_{-3}^{3} |2x + 5|\ dx$$

(05 Marks)

(c) Write the following expressions as a single term.

   (i) $\log_2(80) + \log_2\left(\frac{8}{5}\right)$

   (ii) $\dfrac{e^{(3x+5)}}{e^{-x}} e^{5x}$

(08 Marks)

(d) Solve following equations for x in terms of y. (where t is constant)

   (i) $y = te^{\sqrt{2x^2+1}}$

(03 Marks)

---------------END OF THE QUESTION PAPER------------

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Year 1 Semester II
SEMESTER END EXAMINATION
Macroeconomics – LTME 1211

- This paper consists of SEVEN questions on SEVEN (07) pages.
- Answer <u>FOUR</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.03.04   Pass mark: 50%   Time: 02 Hours

Question 01: (Compulsory)

(a) Banking and unemployment in Morocco

Morocco's banking industry has been described as one of the best in Africa. It has some of Africa's largest commercial banks, but three out of nineteen control more than two-thirds of the market. These three have grown mostly through mergers and it is expected more mergers will occur between Moroccan banks in the future.

The banks make use of brand names, set their own interest rates on loans and provide some different services. The larger banks tend to lend to large firms. Small and medium sized firms find it more difficult to get loans. More than 60% of the population now make use of the services of commercial banks. The proportion of families opening savings accounts at commercial banks is increasing.

Moroccan banks now have branches in 22 African countries as well as a number of European countries. They are also expanding in Morocco, creating more jobs. Morocco has a relatively high unemployment rate. Fig. 1 shows the unemployment

rate in 2015 in a range of African countries including Benin, a relatively poor country. Benin has a large labour-intensive, subsistence farming sector.

Fig. 1 also shows youth unemployment and population growth. Unemployment rates vary between different groups. Youth unemployment is often twice the rate of the overall unemployment rate.

Fig. 1 The unemployment rate, youth unemployment rate and population growth rate in selected African countries in 2015
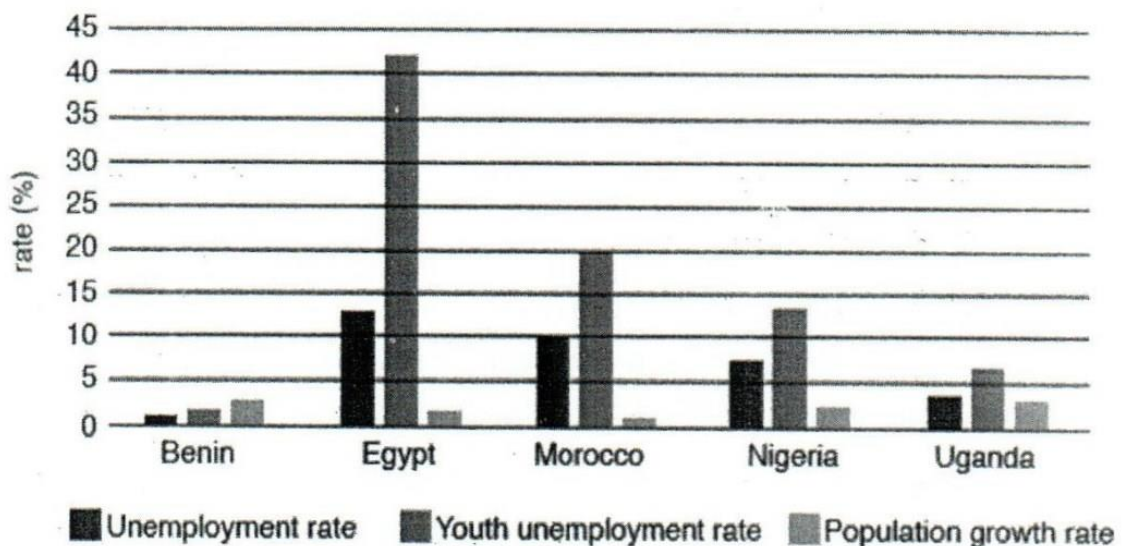
In Morocco, the population is increasing at a faster rate than new jobs are being created. The rising unemployment rate is affecting wage rates in the country. As with unemployment, wage rates vary between different groups. Older workers, for example, tend to be paid more than younger workers.

(a) Identify two functions of a commercial bank using information from the extract.

(02 Marks)

(c) Analyse why a commercial bank may prefer to sell its services in foreign countries rather than in its home country. (04 Marks)

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(d) Analyse whether the information in Fig. 1 supports the view that:

    (i) Countries with high population growth rates have a high

       unemployment rate. (03 Marks)

    (ii) Youth unemployment rate is usually twice that of the overall

       unemployment rate. (05 Marks)

(e) Discuss whether or not older workers are always paid more than younger workers.

(05 Marks)

(f) Explain, using information from the extract, one reason why a relatively poor country may have a low unemployment rate. (06 Marks)

Question 02

(a) The national data details were shown below of a hypothetical economy.

Description	Value
Tax	70
Subsidies	50
Insurance	70
Mining and Quarrying	60
Horticulture	40
Construction	80
Private Services	70
Government Services	120
Agriculture, Livestock and Forestry	450
Restaurants	50
Transport and Communication	90
Factor Income from Abroad	150
Electricity, Gas and Water	110

Residential Care and Social Work Activities	30
Factor spending for Abroad	80
Depreciation	75

You are required to calculate,

      (i)   Sum of value added by Service Sector

      (ii)   GDP at Factor Cost Price

      (iii)   GDP at Market Prices

      (iv)   Net Domestic Production

                                               (4*4 Marks)

(b) Briefly explain the of **"Autonomous Consumption"** using by illustrating in a suitable graph.   (04 Marks)

(c) If an economy Investment $ 200Mn, Government Expenditure $ 125, Net Taxes fix $ 100mn, Consumption function **C=25+0.5Y$_d$,**
Find the equilibrium level of Income of the economy ?
{Use the formula of AD= C+I+G+(X-M)}   (05 Marks)

Question 03

In February 2017, China's central bank raised the rate of interest. It wanted to reduce borrowing and the growth of the money supply, but it was worried that the rise in the interest rate might reduce the country's economic growth rate. The change in interest rate is likely to have increased the workload of skilled commercial bank workers.

(a) Identify **two** characteristics of money.   (02 Marks)

(b) Briefly explain the term of standard deferred of payment.   (05 Marks)

(c) Explain **three** agency functions of Central Bank.   (06 Marks)

(d) Briefly explain how the rise in the interest rate might reduce the

    country's economic growth rate.   (06 Marks)

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(d) Analyse why skilled workers are usually paid more than unskilled workers.

(06 Marks)

Question 04

The United Nations (UN) has set out development goals for countries to achieve by 2050. These goals include:

- Conserve natural resources
- Ensure education for all
- End poverty everywhere
- Promote sustained economic growth

(a) Identify two ways a government could conserve its country's resources.

(02 Marks)

(b) Explain two external benefits that can arise from education.   (02 Marks)

(c) What are the positive effects of economic growth   (06 Marks)

(d) Analyse how a cut in the rate of interest could reduce poverty.   (07 Marks)

(e) Discuss whether or not economic growth always increases living standards.

(08 Marks)

Question 05

High technology (hi-tech) firms use a range of resources including labour and land. One US hi-tech firm has produced a new price index which it claims is more accurate than the Consumer Prices Index (CPI). Central banks try to achieve the most accurate measure of inflation because inflation has effects on a range of people, including savers and borrowers, and on the level of investment in a country.

(a) Define Consumer Price Index (CPI)   (04 Marks)

(b) Identify the reward received by labour and the reward received by enterprise.

(04 Marks)

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(c) Explain how inflation may affect borrowers and savers. (04 Marks)

(d) Explain "Real and Nominal Interest Rates" (05 Marks)

(e) Analyse why it is important to a government that inflation is measured accurately. (08 Marks)

Question 06

Nauru is one of the smallest countries in the world with a population of only 10000. Fifty years ago the population was one of the richest per head in the world, largely the result of exporting the phosphate created over many centuries by sea-bird droppings. This labour-intensive industry has declined significantly. Now incomes are much lower and one third of workers are jobless.

(a) What is meant by a 'labour-intensive industry'? (02 Marks)

(b) Define economically active and inactive people in the labour force (04 Marks)

(c) Analyse the effects of an increase in unemployment on inflation. (05 Marks)

(d) Analyse the cost of unemployment with the aid of an example. (06 Marks)

(e) Discuss whether having a relatively small population is an advantage or a disadvantage for an economy. (08 Marks)

Question 07

Part - A

Imagine an economy defined by the following:

$$C = 200 + 0.6 (Yd).$$

This is the consumption function where 200 is autonomous consumption, 0.6 is the marginal propensity to consume, and Yd is disposable (i.e. after tax income).

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$Y_d = Y - T$, where Y is national income (or GDP) and T = Tax Revenues = 0.4Y; note that 0.3 is the average income tax rate.

I = Investment = 100

G = Government spending = 500

X = Exports = 200

M = Imports = 0.55Y

(i) Determine the aggregate expenditure function. Using the numbers from above and solve Y. (04 Marks)

(ii) If the Keynesian consumption function is **C = 150 + 0.75 Y_d** then, if disposable income is $ 500, What is amount of total consumption ? (04 Marks)

(iii) Define the term of **"Output Gap"** (02 Marks)

Part - B

Write short notes for any THREE (03) of the following

(a) High Powered Money

(b) Sustainable Development Goals – (Quality Education)

(c) Money Supply

(d) Seasonal Unemployment

(e) Economic Recession

(f) Economic Growth

(5*3 Marks)

--------------------END OF THE QUESTION PAPER----------------

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Year 1 Semester II
SEMESTER END EXAMINATION
Transport Geography – LTTG1212

- This paper consists of SEVEN questions on FOUR (04) pages.
- Answer <u>FOUR (04)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.03.02   Pass mark: 50%   Time: 02 Hours

Question 01 - Compulsory

Transportation Geography is a new concept to the Sri Lankan academic field which is a combination of volume, friction, distance and effort.

(a) Briefly define what is volume, friction, distance and effort.   (05 Marks)

(b) Transportation is a very important subject which needs to practice the indusive demand of all kind of transport activities. Other aspect is less knowledge, interest and the less prominence of the society for the subject area in the country but developed countries segregate 12% of GDP to the Transport sector. We being the professionals of the subject, must widen the knowledge of the non-logistic segment of the country. In other way it enhances the recognition, importance, advantage and the professionalism of the respective field. Write one page(A4) article to the Daily News to give a description of "Transportation" to the readers.

(20 Marks)

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Question 02

Sri Lanka has one of the best ports in the region, with introduction of the south harbor the business might increase in many folds. Following are the principle to be adhered to attract more shippers to the port, those are location, depth, land cost, hinterland and ownership.

Give your view to the Chairman of the ports authority to develop more maritime traffic to the Colombo port.   (25 marks)

Question 03

"World city concept" is an important concept for a contry to achieve aglomeration via globalisation.
(a)   Define " World City Concept"   (05 Marks)

(b)   Describe five factors that is important in order to develop Colombo as a world city.
                                                                                (20 Marks)

Question 04

The manufacturing function of many corporations has been hollowed out by the process of globalization, in which manufacturing accounts for one of the least added value activity. The massive entry of low cost manufacturers led to a high level of competitiveness in many production sectors, reducing profit margins as well as its overall level of contribution to added value. This led to a growing contribution and importance of the concept and logistics segments. Consequently, in a global production and consumption market R&D, branding and design can be a significant component of the added value function of a commodity chain. On the logistics segment , distribution, marketing and sales /after sales services are the activities generating the most added.

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Describe how Sri Lanka should get rid of Manufacturing trap and move towards more value added fuctions like Logistics. (25 Marks)

Question 05

"Mobility needs do not always coincide due to several factors, namely the lack of income, lack of time, lack of means and the lack of access. People's mobility and transport demands thus depend on their socioeconomic situation. The higher the income, the higher the mobility, which may give rise to substantial between different population. Gender gaps exist in mobility as women tend to have lower incomes. Mobility gaps are particularly prevalent for long distance travel. With the development of air transport, a segment of the global population has achieved a very high level of mobility for their business and leisure activities, while the great majority of the global population has little mobility."

Describe the "mobility gaps" in the context of Sri Lanka, considering the land and air segment in passenger transportation. (25 marks)

Question 06

Supply chain for agriculture production distribution in Sri Lanka is failing badly though the govt has introduced the Economic Centers like Dambulla, Meegoda and Narahenpita etc. Following are the basic principles of locating a distribution center, those are land, accessibility, infrastructure, planning and regulations, economies of agglomeration and internal multiplying factors.

Describe your view of Sri Lankan model of agricultural supply chain system in order to

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organise a efficient and fair system of trading for the producer and the customer.

(25 marks)

Question 07

Air transportation is rapidly increasing in the world, due to this, many delays are occurring in the transportation , to counter that many airports are emerging in the countries. This is a remarkable opportunity to tap these profitable business to promote Sri Lanka as an Air transportation hub like Zurich or Amsterdam. Considering the above factors Sri Lanka has the potential to develop Hambanthota air port as one of the air hubs of the world.

Discus your views under these principle considerations in terms of Hambanthota airport.

(25 Marks)

(a) Air Transportation forecast demand

(b) Runway configuration

(c) Local accessibility

(d) Adjacent land uses

(e) Obstructions

----------------END OF THE QUESTION PAPER------------

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Year 1 Semester II
SEMESTER END EXAMINATION
English for Business II – LTEB1213

- This paper consists of FIVE questions on TWELVE (12) pages.
- Answer ALL questions.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.02.28   Pass mark: 50%   Time: 02 Hours

Section A – Business Vocabulary/ Structures

Question 01

A. Underline the most appropriate word given within brackets.   (10 marks).

(i). The machine was devised to detect [counterfeit/ forged] notes.

(ii). Selling goods of a high quality will make a company [reputed/ rumored]

(iii). The supercenter was developed to meet the [growing/ grown] demand for
one-stop family shopping.

(iv). It is a chain of warehouse clubs that are [selling/ sold] groceries and general
Merchandise in large quantities.

(v). Reward system is used as a critical tool for [boosting/ boosted] staff morale.

(vi). In certain organizations, the labour cost [covering/ covered] 50% of overall
operational cost.

(vii) When better performers are [rewarding/ rewarded] at the same level as poor

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performers, feelings of inequity are created.

(viii). Both organization and staff can be [benefitting/ benefitted] from the

outstanding presentation skills of employees.

(ix). The director arrived [accompanying/ accompanied by the managers.

(x). [Defining/ Defined] social values is not easy.

B. Put the words in the following sentences in the correct order. **(10 marks).**

(i). a product portfolio/ on/ five million/ the company/ developing/ on/ has
invested

....
....

(ii). the new CEO/ with open arms/ the day before yesterday/ welcomed/ the
employees
/ at the Head Office

....
....

(iii). owe/ their families/ all students/ at all times/ to/ a debt of gratitude/
unconditionally

....
....

(iv). a new system of stock control/ by February 2020/ will have introduced/ in
the main warehouse/ the company

....
....

(v). in a few days' time/ will explain / its decision/ to/ the government/ the
public

....
....

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Section B – English in Pragmatic/ Realistic Settings

Question 02

A. **Identify the errors in the following sentences and rewrite correcting them.**

(10 marks)

Example: You study English, no?   You study English, ***don't you?***

(i). Is the manager absent yesterday? ....

(ii). Did you came to office? ....

(iii). Cannot you do it? ....

(iv). You will get a promotion, no? ....

(v). Are there not bonuses last year? ....

(vi). All employees work hardly. ....

(vii). I am late, no? ....

(viii). You aren't coming, no? ....

(ix). The news were conveyed to the staff. ....

(x). The accountant is more junior than I in service. ....

....

B. **Write the functions of the following expressions used in everyday language**

choosing from the box.   **(10 marks)**

certainty, obligation, permission, suggestion, ability, prohibition, no necessity, criticism, assumption, possibility, ~~request~~

Example: Could you help me with my dissertation? *[request]*

(i). Can you invest in the new project? ....

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(ii). Next year the new company may have a bigger share of the market.

....

(iii). Could we possibly stay at your flat? ....

(iv). Intoxicating liquor cannot be sold to persons under 18.

....

(v). A company's business model must take into consideration social, economic and

environmental factors. ....

(vi). Some state corporations didn't have to go through customs.

....

(vii). The HR Manager should have deposited EPF and ETF on time.

....

(viii). The tall well-dressed gentleman should be the CEO.

....

(ix). The management can't have made a wrong decision.

....

(x). Shall we shift our main warehouse next year? ....

Section C – Comprehension

Question 03

I. **Read the following instruction given about the use of auxiliary verbs and fill in the blank accurately with an auxiliary verb or verbs.**   **(05 marks)**

To avoid repeating words from a previous clause or sentence we use an auxiliary verb such as be, have or modals instead of a whole verb group or instead of a verb and what follows it. If there is more than one auxiliary verb in the previous clause or sentence, we leave out all the auxiliary verbs except the first instead of repeating the main verb. Alternatively, we can use two or more auxiliary verbs.

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"I'm not quite sure whether Mrs. Ruwanthi had been invited to the party, although her husband ...."

II. **Read the advantages of Cork bottle stoppers and fill in the given blanks.**
(05 marks)

The classic cork stopper does have several advantages, however. Firstly, its traditional image is more in keeping with that of the type of high quality goods with which it has long been associated. Secondly, and very importantly, cork is a sustainable product that can be recycled without difficulty. Moreover, cork forests are a resource which support local biodiversity and prevent desertification in the regions where they are planted.

Cork suits the (i)............................ of quality products
It is made from a (ii)............................ material.
It is easily (iii)............................
Cork forests aid (iv)............................
Cork forests stop (v)............................

III. **Read the following passage and write in the blanks 'Yes' if the given statements agree with the claims of the writer, 'No' if the statement contradicts the claims of the writer. 'Not given' if it is impossible to think what the writer thinks about this.** **(10 marks)**

After a number of serious failures of governance (that is how they are managed at the highest level), companies in Britain, as well as elsewhere, should consider radical changes to their directors' roles. It is clear that the role of a board director is not an easy one. Following a financial breakdown in 2008, which resulted in a deeper and more prolonged period of economic downturn that anyone expected, the search for explanations in the many post mortems of the crisis has meant blame has been spread far and wide. Governments, regulators, central banks and auditors have all been in the frame. The role of bank directors and management and their widely publicized failures have been extensively picked over and examined in reports, inquiries and commentaries.

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Often, board business is devolved to committees in order to cope with the workload, which may be more efficient but can mean that the board as a whole is less involved in fully addressing some of the most important issues. It is not uncommon for the audit committee meeting to last longer than the main board meeting itself. Process may take the place of discussion and be at the expense of real collaboration, so that boxes are ticked rather than issues tackled.

(i). It is suggested that directors' roles need not undergo through and complete changes everywhere. ....

(ii). Continued economic downturn after financial breakdown in 2008 was hardly expected. ....

(iii). In addition to government regulators, central banks and auditors, even the retailers were among the blamed in the frame. ....

(iv). Not only reports but also inquiries and commentaries reveal the failures of the work of bank directors and management. ....

(v). Some responsibilities of the board business have been transferred to a committee structure to enhance efficiency. ....

Section D – Presenting Information

Question 04

A. Correct the underlined errors in the following description of a bar graph and write in the given blanks. Chocolate consumption – in kilos per head in 2018. (10 marks)

Country	Kilos per head female	Kilos per head male	Total kilos per head
Switzerland	5.0	5.3	10.3
Australia	2.2	2.2	4.4
Sri Lanka	0.5	0.4	0.9

The table provides information on how much chocolate *were consuming* (i)...................
in a range of different countries in the world. It *is shown* (ii)................... the number of

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kilos per head *were eating* (iii)..................... in 2018 and provides a breakdown of these figures for men and women.

Total chocolate consumption ranges from 0.9 to 10.3 kilos per head. The country with the *most high* (iv)..................... consumption of chocolate is Switzerland, where an average of 10.3 kilos *consuming* (v).................... per person. In other countries, we do not see a similar *consumed* (vi).................... pattern. By contrast, Sri Lankans ate *a lesser* (vii)..................... amount of chocolate.

As far as consumption of men and women is concerned, there is generally little *different* (viii)..................... between the two. In most cases, women eat almost the same amount of chocolate as men. An equal number of men and women *would eat* (ix)........... chocolate during the period under consideration.

Overall, it seems that very different quantities of chocolate are eaten around the world but in general, the product is *best* (x).................... popular in Europe than elsewhere.

B. Summarize the information given in the table by selecting and reporting the main

features and make comparisons where relevant. **(10 marks)**

The table gives information on the ages of the population of Yemen and Italy in 2000 and projections for 2050.

Year	Yemen			Italy		
	0-14 years	15-59 years	60 + years	0-14 years	15-59 years	60 + years
2000	50.1%	46.3%	3.6%	14.3%	61.6%	24.1%
2050	37.0%	57.3%	5.7%	11.5%	46.2%	42.2%

Write at least 100 words.

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Section E – Business Writing

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Question 05

A. In the conclusion of the following report, ten phrases or sentences are missing.

Write the number of the missing phrases or clauses given separately in the blanks where they should fit in. **(10 marks)**

The careful and thorough study of the behavior, working atmosphere and ***e.g. (iv)*** working at restaurants in the Colombo metropolitan area implies that essential and integral components of the rewarding system expected for Caffee Bravo should include *(a)*.............. for working hours as a crucial extrinsic factor to retain the employees and a flexible leave plan without *(b)*............ as an intrinsic motivational factor.

The employees working in the restaurant networks in Colombo *(c)*............. Only a minority of youth living in Colombo and its suburbs work in restaurants. Further, there is a quite a number of leading restaurants in Colombo and even *(d)*............ them to join another in the immediate vicinity. Thus, for Caffee Bravo to keep employees attracted, implementing *(e)*............ with fringe benefits is indispensable.

The targeted employees for Caffee Bravo are mostly *(f)*........... and generally studied up to G.C.E (O/L) in the country. So their aspirations are comparatively low and lack commitment for long term career success. In addition, *(g)*........... and expect lenient rules to enjoy life. Due to this life style, when they are not given freedom and ample leave, once they leave for villages after a period of work, they don't usually return to work. *(h)*........... by most restaurant owners in the country.

Therefore, it is recommended for Caffee Bravo to have an eight-hour shifts for the employees with a competitive hourly payment and making the employees aware that *(i)*........... They can even exchange shifts with their colleague employees. While maintaining a friendly working atmosphere with encouraging remarks and rewards, a weekly *(j)*........... for the three outlets in Colombo.

(i). a little dissatisfaction may compel

(ii). any hard and fast rules

(iii). the youth qualified in the hotel schools

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(iv). the aspirations of the employees e.g.

(v). It is common issue faced

(vi). a competitively higher hourly payment in the industry

(vii). are mostly outstation

(viii). scheduled work plan is recommended

(ix). the suggested reward system

(x). the dreams of the majority in this group are simple

(xi). they have a flexible leave system.

B. **You work as secretary to a director of an advertising agency. The board has decided to outsource some of the agency's IT work and you have been asked to look at possible contractors to do this work and prepare a proposal. Write the proposal for outsourcing using the information and the notes given below.** **(10 marks)**

AdDirect, Colombo 07 (note: quite expensive)

- Set up, maintain and update company websites (note: would save money because....)
- data systems security and 199 emergency telephone hotline (note: didn't have this facility last year because.......)
- installation and maintenance of communication systems

Techno Excela, Malabe – We provide (note: cheaper but ....)

- online IT support and training (note: too late! Staff given this last year, so ..)
- website hosting (note: But we need web design ..)
- tailored programs supplied and installed

Use the following format:

Introduction – AdDirect- Techno Excela - Recommendations

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Write at least 150 words.

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Year 1 Semester II
SEMESTER END EXAMINATION
Business Statistics – LTBS1209

- This paper consists of SEVEN questions on SEVEN (07) pages.
- Answer <u>FOUR</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.02.26   Pass mark: 50%   Time: 02 Hours

Question 01: <u>Compulsory</u>

(a) Priyanka collected wild mushrooms every day for a week. When she got home each day, she weighted them to the nearest 100 g. The weights are shown below:

600 , 800 , 300 , 300 , 1000 , 800 , 800

   (i)   Write down the mode for these data.
  (ii)   Calculate the mean for these data.
 (iii)   Find the median for these data.

On the next day, Priyanka collected 300 g of wild mushrooms.
 (iv)   Write down the effect this will have on the mean, the mode and the median

(08 Marks)

(b) The Probability that a member of a sports club plays hockey (P) is 0.4 and the probability that the member plays cricket (Q) is 0.5. The probability that the member plays both sports is 0.35., Find
   (i) $P(P \cup Q)$

(ii) $P(P' \cap Q)$

(iii) $P(P \cup Q')$

(06 Marks)

(c) A discreate random variable X has the probability distribution shown in this table.

x	0	1	2	3
P(X=x)	1/4	1/8	1/8	1/2

Find,

(i) $P(1 < X \le 2)$

(ii) $P(X < 3)$

(iii) $P(X > 1)$

(06 Marks)

(d) An officer is always late to the office and arrives within the grace period of fifteen minutes after the start. Let X be the time that elapses between the start and the time the officer signs in with a probability density function

$$f(x) = \begin{cases} 2k\,x^2 & 0 \le x \le 15 \\ 0 & \text{otherwise} \end{cases}$$

where $k > 0$ is a constant.

(i)   Compute the value of k.

(ii)   Find the Probability that the he arrives less than 5 minutes after the start of the office.

(05 Marks)

(e) Find the Number of arrangements that can be made by using all the letters of

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the word GONAPINUWALA. Find, in how many of these arrangements the vowels are separated.

(05 Marks)

(f) Consider the discreate random variable $X \sim B(15, 0.6)$

Find,

    (i) $P(X = 3)$ (ii) $P(X \leq 4)$ (05 Marks)

(G) The mean and the standard deviation of 100 observations were calculated as 30 and 4.1 respectively. It was later found that one observation has been erroneously recorded as 40 instead of the correct value 30. Compute the correct mean and the standard deviation of the 100 observations.

(05 Marks)

Question 02

(a) Let A, B and C be any THREE events in Sample Space S. Find the expressions for the following events.

(i)	All three events occur	(01 Marks)
(ii)	At least one occurs	(01 Marks)
(iii)	Only A occurs	(01 Marks)
(iv)	Both A and B but C not occur	(01 Marks)
(v)	At least two occur	(01 Marks)
(vi)	One and no more occurs	(01 Marks)
(vii)	Exactly two occur	(02 Marks)

(b) The events A and B are such that $P(A) = \frac{1}{3}$, $P(B) = \frac{2}{5}$ and $P(B|A') = \frac{11}{20}$ find

(i). $P(A \cap B)$ (ii). $P(A \cup B)$ (iii). $P(A'|B)$ (iv). $P(A|B)$

(12 Marks)

Question 03

(a) The table shows the lengths of the films in a film festival, to the nearest minute.
weights of 50 employees of a Merck company represented by the following table:

Length (min)	F
$60 \leq X < 69$	6
$70 \leq X < 79$	13
$80 \leq X < 89$	18
$90 \leq X < 99$	12
$100 \leq X < 109$	1

(i) Plot the histogram and frequency polygon.   (04 Marks)
(ii) Calculate the mean and median.   (02 Marks)
(iii)   Calculate First quartiles and Third quartile   (02 Marks)
(iv)   Calculate mode   (02 Marks)

(b) A and B are two events such that P (A) = 0.45, P (B) = 0.5 and P (A ∩ B) = 0.25. Find,

    (i)   P (A/B) (ii)   P (B/(A ∪ B))   (iii)   P (A'/B')

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(10 Marks)

Question 04

Vehicles approaching a crossroad must go in one of the three directions: left, right or straight on. Observations of traffic engineers reveal that of vehicles approaching from the west: 40 % turn left, 30 % turn right and the rest go straight on. Assuming that the driver of each vehicle chooses direction independently, find the probability that of the next three vehicles, approaching the crossroad from the west,

(a) all go straight on,
(b) all go in the same direction,
(c) two turns right and one turn left,
(d) all go in different directions.

If the three consecutive vehicles, all go in the same direction, show that most of the time they all turn left.

(20 Marks)

Question 05

(a) An examination was held to decide the awarding of a scholarship. The weights of various subjects were different. The marks obtained by 3 candidates (out of 100 in each subject) are given below:

Subject	Weight	Students		
		A	B	C
Mathematics	4	60	57	62
Physics	3	62	61	67
Chemistry	2	55	53	60
English	1	67	77	49

Calculate the weighted Arithmetic Mean to award the scholarship.

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(10 Marks)

(b) A class of 22 girls and 23 boys. All these 45 students are subjected to a written test, and the summary of results are below.

	Boys	Girls
Mean	32	35
Standard Deviation	6.2	4.3

Find the Compound mean and Standard deviation for all the students.

(10 Marks)

Question 06

(a) Let A and B be two events of a sample space Ω with P(B) > 0. Define P(A/B), the conditional probability of A given B

Show that $P(A) = P(B) . P(A/B) + P(B') . P(A/B')$, where $0 < P(B) < 1$ and B' denotes the complementary event of B.

(10 Marks)

(b) Write short notes on any **FIVE** of the following;

  (i)   Discreate Random Variable

  (ii) Secondary Data sources

  (iii) Bayes Theorem

  (iv) Continuous Probability Distributions

  (v)   Conditional Probability

  (vi) Mean and Variance of Connected Distribution

(10 Marks)

Question 07

(a) A Student council of 15 Students consists of 3 Science students, 5 Arts students and 7 Commerce students. It is required to select 6 students from this student council to work on a project. Find the number of different ways in which this can be done, if

    (i)   all 15 students are eligible to be selected,

    (ii)   two particular students are not permitted to work together

    (iii) two students from each of the subject stream need to be selected.

Also ,

find the number of different ways in which a group selected under (iii) above can be seated   around a circular table, if the two students from the science stream in the group are not permitted to sit next to each other.

(10 Marks)

(b) The table below shows the quantity in hundred kgs of Wheat, Barley and Oats produce on a certain form during the years 1988 to 1991.

Year	Wheat	Barley	Oats
1988	30	32	18
1989	30	32	18
1990	21	19	40
1991	35	23	22

(i). Construct a component bar chart to illustrate this data.

(ii). Construct a multiple bar chart to illustrate this data.

(iii). Draw the Pie-charts for 1989 and 1988.

(10 Marks)

----------------END OF THE QUESTION PAPER-----------------

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Year 1 Semester II
SEMESTER END EXAMINATION
Introduction to Law – LTIL1310

- This paper consists of EIGHT questions on THREE (03) pages.
- Answer <u>FIVE (05)</u> questions including question 01.
- Only non-programmable calculators are allowed.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.
- Write legibly.

Date: 2020.02.24   Pass mark: 50%   Time: 03 Hours

Question 01 - Compulsory

"The question, what is the nature, or essence, of law? has long perplexed legal and political philosophers. It was raised in an acute form by the very earliest Greek thinkers, it obsessed much of their intellectual energy, and to this day it remains unanswered. By this I do not mean that no answer has ever been given to this question, but rather that it is still disputed which of the many answers that have been given is the correct one"

Wollheim, R. (1954). The Nature of Law. Political Studies, 2(2), 128–141.

Do you agree with the above statement? State your reasons for the answer with the use of at least two schools of legal thought while focusing on the highlighted sentences.   (20 Marks)

Question 02

(a) List out the sources of law in Sri Lanka   (05 Marks)

(b) Briefly explain the doctrine of precedent with a suitable example (15 Marks)

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Question 03

(a) Define the term "International Law"   (05 Marks)

(b) Discuss the theories of monism and dualism regarding the relationship between international law and domestic law.   (15 Marks)

Question 04

Answer either part (A) or Part (B)

Part (A)

(a) Briefly discuss about the functions of the different branches of government
                                                      (05 Marks)

(b) Explain the powers functions and duties of the executive president under the Constitution of the Democratic Socialist Republic of Sri Lanka (15 Marks)

OR

Part (B)

Write a note on the Fundamental Rights granted under the Constitution of the Democratic Socialist Republic of Sri Lanka   (20 Marks)

Question 05

(a) Define the term "Contract"   (05 Marks)

(b) Compare and contrast between offer and invitation to treat   (08 Marks)

(c) Compare and contrast between consideration and justa causa

                                                      (07 Marks)

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Question 06

(a) Define the term Agency   (05 Marks)

(b) Discuss the rights of an Agent   (10 Marks)

(c) List out the ways in which an agency relationship could be created

(05 Marks)

Question 07

(a) Define the term Partnership   (05 Marks)

(b) What is meant by the dual capacity of a partner? Briefly explain your answer

(15 Marks)

Question 08

(a) Briefly explain the Salomon principle in relation to the idea of juristic personality of a company   (10 Marks)

(b) Briefly explain the steps that have to be taken in incorporating a private limited company under the provisions of the Companies Act No 07 of 2007

(10 Marks)

------------------END OF THE QUESTION PAPER------------------