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

Year 2 Semester II
Semester End Examination
E-Commerce - LTEC2210

- This paper consists of SEVEN (07) questions on NINE (09) pages.
- Answer FOUR 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.

Date: 2023.03.27

Pass mark: 50%

Time: 02 Hours

Question 01 - Compulsory

Select the most suitable answer.

1. What is the primary benefit of an e-commerce platform?

- a) Convenient shopping experience
- b) Access to a wide range of products
- c) Affordable pricing
- d) Social media integration

2. What is the difference between B2B and B2C e-commerce?

- a) B2B e-commerce involves selling to individual consumers, while B2C e-commerce involves selling to other businesses.
- b) B2B e-commerce involves larger transactions, while B2C e-commerce involves smaller transactions.
- c) B2B e-commerce involves a longer sales cycle, while B2C e-commerce involves a shorter sales cycle.
- d) B2B e-commerce involves more customization, while B2C e-commerce involves less customization.

3. What is the role of customer reviews in e-commerce?
- a) They have no impact on purchasing decisions.
 - b) They can help to build customer trust and loyalty.
 - c) They are only important for certain types of products.
 - d) They are only important for large e-commerce platforms.
4. What is a payment gateway in e-commerce?
- a) A service that allows customers to pay with cash
 - b) A service that allows customers to pay with credit cards
 - c) A service that verifies the security of the payment transaction
 - d) A service that allows customers to track their orders
5. What is a digital wallet in e-commerce?
- a) A physical wallet used to store cash
 - b) A service that allows customers to pay with cheques
 - c) A service that stores payment information for quick and easy checkout
 - d) A service that allows customers to pay with wire transfers
6. Which type deals with auctions?
- a) B2B
 - b) B2C
 - c) C2B
 - d) C2C
7. The best products to sell in B2C e-commerce are:
- a) Small products
 - b) Digital products
 - c) Specialty products
 - d) Fresh products
8. All of the following are technologies used to gather information about you online except _____
- a) Spyware
 - b) Cookies
 - c) Gmail
 - d) Anonymizers
9. Which of the following is not a key element of a business model?

- a) Value proposition
- b) competitive advantage
- c) market strategy
- d) universal standards

10. The source of revenue in a subscription revenue model is _____

- a) Fees from advertisers in exchange for advertisements
- b) Fees for business referrals
- c) Fees from subscribers in exchange for access to content or services
- d) Fees for enabling or execution a transaction

11. The _____ business model involves an independently owned vertical digital marketplace for direct inputs.

- a) e-distributor
- b) Exchange
- c) e-procurement
- d) private industrial network

12. All of the following are techniques B2C e-commerce companies use to attract customers, except;

- a) Registering with search engines
- b) Viral marketing
- c) Online ads
- d) Virtual marketing

13. Which term represents a count of the number of people who visit one site, click on

- a) Affiliate programs
- b) Click-through
- c) Spam
- d) All of the above

14. A strategy designed to compete in all markets around the globe is called a _____ strategy.

- a) Scope

b) Differentiation

c) Cost

d) Focus

15. Which of the following are advantages normally associated with B2B e-commerce?

a) Shorter cycle times

b) Deduction in costs

c) Reaches wider audiences

d) All of the above

16. Which of the following statements accurately reflect the impact of technology?

a) Technology has caused buyer power to increase

b) Technology has lessened the entry barriers for many industries

c) Technology has increased the threat of substitute products and services

d) all of the above

17. Malicious hackers who act with the intention of causing harm are_____

a) White hats

b) Black hats

c) Grey hats

d) Brown hats

18. Which of the following is not a dimension of e-commerce security provided by encryption?

a) availability

b) integrity

c) nonrepudiation

d) confidentiality

19. Which of the following represents a limiting factor for the growth of e-commerce?

- a) Persistent cultural attraction of physical markets and traditional shopping experiences
- b) Inadequate selection of goods compared to physical marketplaces
- c) E-commerce lacks the convenience of other methods of transacting business
- d) The potential audience for e-commerce is too low to support it as a widespread method of commerce

20. A patent grants the owner an exclusive monopoly on the ideas behind the invention for _____ years.

- a) 10
- b) 20
- c) 30
- d) 40

21. The ethical principle which states that if an action is not right for all situations, then it is not right for any situation is known as,

- a) The golden rule
- b) Slippery slope
- c) No free lunch
- d) Universalism

22. Which of the following statements about privacy is true?

- a) It is a moral right to be left alone
- b) Only corporations and government need to be concerned about it
- c) It has only just recently become a concern
- d) It is most easily obtained on the Internet

23. Which of the following is an advantage of e-books?

- a) reduced transaction costs for the user
- b) requirement of expensive devices to use
- c) portability compared to print books
- d) copyright management

24. This E-Commerce business model mainly focuses on selling products or services online.

- a) Indirect Marketing
- b) Marketplace
- c) Online Direct Marketing
- d) Brick & Mortar

25. The online version of the *Financial Times* allows you to select the type of news stories you want to see first, and gives you the opportunity to be alerted when certain events happen. This is an example for,

- a) Interactivity
- b) Richness
- c) Personalization
- d) Social Technology

Question 02

- a) List down six key dimensions of e-commerce security. (03 Marks)
- b) Briefly explain the tension between security and other values by using two examples (04 Marks)
- c) Explain three types of key security threats in the e-commerce environment. (09 Marks)
- e) Describe how technology helps to secure Internet communications channels and protect networks, servers, and clients using three examples. (09 Marks)

Question 03

- a) Explain following two terms. (04 Marks)
 - I. Value proposition

II. Competitive advantage

- b) What types of services does Amazon provide for businesses? Which e-commerce business models do Amazon's services fall into? (06 Marks)
- c) Examine the experience of shopping online versus shopping in a traditional environment. Imagine that you have decided to purchase a digital camera (or any other item of your choosing). First, shop for the camera in a traditional manner. Describe how you would do so (for example, how you would gather the necessary information you would need to choose a particular item, what stores you would visit, how long it would take, prices, etc.). Next, shop for the item on the Web or via a mobile app. Compare and contrast your experiences. What were the advantages and disadvantages of each? Which did you prefer and why? (15 Marks)

Question 04

- a) List down five measurements/ tools that can be used to measure the online marketing communications' effectiveness. (05 Marks)
- b) If you were a business manager of a medium-sized firm, how would you decide where to purchase your indirect inputs, from an e-distributor or an e-procurement Net marketplace? Explain your answer. (08 Marks)
- c) Select a business firm and briefly discuss some strategies to improve it by using one of the following digital marketing tactics. (12 Marks)
- One-to-one marketing
 - Viral marketing
 - Blog marketing
 - Social network marketing
 - Affiliate marketing

Question 05

- a) Briefly discuss about two strategies to achieve consumer-centric retailing. (05 Marks)
- b) Briefly explain the following. (08 Marks)
- i. Service Shift
 - ii. Digital shift in retail industry

- c) Critically analyze on the contribution of ICT to the future retail industry using three aspects. Provide examples for each. (12 Marks)

Question 06

GLOMARK online shopping platform was launched in 2018 to provide customers with a convenient and secure online shopping experience for groceries and household essentials.

The success of GLOMARK can be attributed to several key factors. First, the platform was designed with the needs and preferences of Sri Lankan consumers in mind. This included the ability to search for products in the local language, which made it easier for customers to find the products they were looking for. The platform also offered a wide range of products, including fresh produce, which was not available on other e-commerce platforms in Sri Lanka.

Second, GLOMARK provided customers with a range of payment and delivery options, which made it more convenient for them to shop online. Customers could pay for their purchases using a variety of payment methods, including credit and debit cards, and could choose to have their orders delivered to their doorstep or to pick them up from a nearby store.

Third, GLOMARK invested heavily in logistics to ensure fast and efficient delivery of products. The company partnered with local logistics providers to ensure that products were delivered on time and in good condition. This was a critical factor in the success of the platform, as customers expect fast and reliable delivery when they shop online.

Finally, GLOMARK was marketed aggressively, using social media and other online channels to reach a wider audience. The company used targeted advertising to promote the platform to specific customer segments, such as young professionals and busy families.

- a) According to the case, list down three success factors of GLOMARK.

(03 Marks)

- b) Briefly explain the following terms with regards to the case mentioned above.

(12 Marks)

- I. Using omni-channel
- II. Reduction of Information asymmetry
- III. Sustaining technologies

- c) Discuss an ethical or security issue that can happen due to the implementation of GLOMARK online shopping platform. Then provide strategies/recommendations to mitigate the issue that you have mentioned. (10 Marks)

Question 07

Write short notes on following.

(5*5 Marks)

- I. Information Collected at E-commerce Sites
- II. Limitations of Online Credit Card Payment Systems
- III. Differentiation business strategy
- IV. Integrity vs Confidentiality in ecommerce security
- V. PayPal

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



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Year 2 Semester II

Semester End Examination

Shipping Management – LTSM2209

- This paper consists of SEVEN (07) questions on THREE (03) pages.
- Answer FOUR (04) 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.

Date: 2023.03.23

Pass mark: 50%

Time: 02 Hours

Question 01: (Compulsory)

Read the below case study and answer the given questions.

“A Shipping Agency is an agency who is accountable for managing shipments and cargo at ports and harbors and they work on behalf of shipping companies worldwide. The primary role of a ‘X’ is to act as ‘Y’s legal representative in the port of call, looking after his interests, organizing the commercial operation and vessel husbandry needs and eventually paying the related vendors on behalf of ‘Y’. ‘X’ is a permanent representative who, in a foreign port of call, looks after ‘Y’s interests, in the latter’s name and at his expense. Acting as the local representative of the principal, ‘X’ offers local knowledge and expertise and makes sure that the principal’s needs are performed with the utmost efficiency. Accordingly, ‘X’ requires to be fully conversant with all the appropriate regulations and requirements relating to the port, area or sector in which they operate, to have a wide range of relevant contacts and be sufficiently well established and founded to be able to provide the level of service and support the principal needs (Bes, 1977, p-10). It is the responsibility of ‘X’ to ensure that essential supplies, customs documentation crew transfers, and waste declarations are all arranged with the port authorities without any delay. Tahalooa (2013) indicated that in some parts of the world, ‘X’ is also referred to as port agent or cargo broker, depending on whether they handle only cargo or the entire shipment process. There are several categories of ‘X’ such as: port, liner and own

agencies, each rendering specific services depending on the shipping company they serve. "

- (a) Who are parties denoted by 'X' and 'Y'? (05 Marks)
- (b) Give 5 examples for "vessel husbandry needs" mentioned in Para, line 04. (05 Marks)
- (c) Define 'X'. (05 Marks)
- (d) 'X' in a particular country should be aware of procedures followed by the respective local port authorities and other entities. Mention whose statement matches with this given sentence. (05 Marks)
- (e) Define shipping management. (05 Marks)

Question 02

Port Pricing/ Tariff system is referred to the process of receiving rewards or payments payable to port authority for rendering services. It affects final market price of goods & direct competition.

- (a) The above-mentioned rendering services can be segregated into three. One category is services to vessels and cargo. What are the other two categories? (05 Marks)
- (b) Point out ten factors influencing the level of port tariffs. (10 Marks)
- (c) Explain types of port payments including examples. (10 Marks)

Question 03

The UCP is a set of rules on the issuance and use of letters of credit. In 2007, International Chamber of Commerce established UCP 600 to reduce the doubts caused by individual countries promoting their own national rules on documentary credit practice. The UCP is utilized by bankers and commercial parties in more than 175 countries in trade finance. UCP is the most successful set of private rules for trade ever developed.

- (a) UCP had been revised six times in the history so far.
- (i) What is the expanded name of short form UCP? (02 Marks)
- (ii) How many articles are there in UCP 600? (02 Marks)
- (iii) Define four major parties involved in documentary credit transactions. (06 Marks)
- (b) UCP 600 play a vital role in international trade today.
- (i) Explain the importance of UCP 600 in shipping industry. (05 Marks)

(ii) Describe any four articles of UCP 600.

(10 Marks)

Question 04

Describe the main functions of a bill of lading & four types of bills of lading including their special characteristics. (25 Marks)

Question 05

The IMDG (International Maritime Dangerous Goods) code is a set of rules and regulations that have set an industry standard for safely practicing the movement of Dangerous Cargo through international territories.

- (a) Define the term "Dangerous Cargo". (01 Marks)
- (b) What are the "Dangerous Goods Classes"? (09 Marks)
- (c) Illustrate handling methods of dangerous cargo. (15 Marks)

Question 06

Smuggling can involve anything from illegal drugs to protected wildlife. If contraband is detected on board, it may have serious consequences to ship, cargo and not least the crew. Discuss the term "smuggling", motives of smuggling & preventive measures for smuggling. (25 Marks)

Question 07

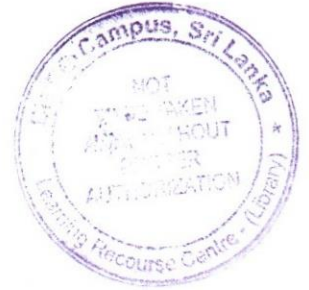
Write down short notes for five preferred topics from the below. (5*5 Marks)

- (a) Time charterparty
- (b) OOG cargo
- (c) Parties involved in documentary credit transactions.
- (d) Pilotage
- (e) Maritime Piracy
- (f) Break-bulk cargo
- (g) Bunkering
- (h) Load Line Certificate

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



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Year 2 Semester II

REPEAT EXAMINATION

Transport Economics – LTTE22II

- This paper consists of SEVEN (07) questions on TWO (02) pages.
- Answer FOUR 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 legible.

Date: 2023.01.20

Pass mark: 50%

Time: 02 Hours

Question 01 (Compulsory)

- (a) Explain that importance of Transport and Logistics services for the development of the economy. (10 Marks)
- (b) Explain the concept of travel demand (05 Marks)
- (c) Explain the determinants of travel demand with examples (10 Marks)

Question 02

Explain that how you could use determinates of transport demand for the development of Transport industry of the Sri Lanka after the 2020 (25 Marks)

Question 03

- (a) "The elasticity of travel demand is an important concept in strategic decision-making process in the transport market specially in pricing decision. do you agree? Explain. (25 Marks)



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Question 04

“Price discrimination is the term used to describe a pricing policy in transport market” explain the concept, condition required, importance and examples related to the statement. (25 Marks)

Question 05

In transport economy it can be seen negative externalities and positive externalities. The government intervenes to control and promote those externalities through their economic policies. Justify your answer with appropriate examples and diagrams. (25 Marks)

Question 06

Shipping is the most economical mode of transport for cargo that accounts for approximately 80% of the world trade. However, due to the uniqueness of shipping supply and complicated demand characteristics due to its derived demand nature the pricing in liner shipping has become highly volatile and complicated.

- (a) What are the corrective measures applied by shipping lines to address this problem? (05 Marks)
- (b) Explain four types of corrective measures identified in (a) (20 Marks)

Question 07

Write short notes on any five (05) of the followings.

- (a) Cost classification in airline
- (b) Public Private Partnership program
- (c) Cross price elasticity in transport market.
- (d) Product differentiation.
- (e) Cost level and structure in Railway
- (f) Cost level and structure in Logistics company
- (g) Cost level and structure in public bus transportation. (25 Marks)

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

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Faculty of Management and Social Sciences
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Year 2 Semester II
Semester End Examination
Port Loading and Unloading Techniques – LTPT2213

- This paper consists of SEVEN (07) questions on THREE (03) pages.
- Answer FOUR 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.

Date: 2023.03.17

Pass mark: 50%

Time: 02 Hours

Question 01(Compulsory)

- (a) Name four sizes of ship to shore gantry (STS) cranes & how many containers across the ship can handled in each type? (5 Marks)
- (b) Name four spreader attachments for ship to shore gantry (STS) cranes & how many 20' or 40' can handle in each spreader attachment? (5 Marks)
- (c) Name different equipment's used for quay transfer operation including automated? (5 Marks)
- (d) Name different equipment's used for storage/stacking operation including automated? (5 Marks)
- (e) What are the modern gate facilities? (5 Marks)

Question 02

- (a) What is Direct Terminal Operation & give examples? (5 Marks)
- (b) What is Indirect Terminal Operation & give examples? (5 Marks)
- (c) Why Terminals need pre planning & name six types of planning? (5 Marks)
- (d) Explain what is ship turnaround time? (5 Marks)
- (e) Explain what is truck turnaround time? (5 Marks)

Question 03

- (a) Name people carrying ships & what are terminal names given for each ship handling in Ports? (5 Marks)
- (b) Why passenger carrying ships are given top priority berthing over other cargo handling ships in Ports? (5 Marks)
- (c) What are the modern handling facilities available in Cruise Terminal? (10 Marks)
- (d) Explain with example the route for Direct & Indirect Terminal Operation in Cruise Terminals? (5 Marks)

Question 04

- (a) Explain with example the route for Direct & Indirect Terminal Operation in automobile handling Ro Ro Terminals? (5 Marks)
- (b) What are different RO - RO ship types? (5 Marks)
- (c) Draw and explain the terminal lay-out of a automobile handling Ro-Ro Terminal? (5 Marks)
- (d) What are the human resources required for the Terminal Operation? (5 Marks)
- (e) What are the safe rules & regulations (best practices) to be observed by each staff category? (5 Marks)

Question 05

- (a) What is hook cycle & explain? (5 Marks)
- (b) What are your suggestions to improve hook cycle time? (5 Marks)
- (c) What is quay transfer cycle & explain? (5 Marks)
- (d) What are your suggestions to improve hook cycle time? (5 Marks)
- (e) Name different types of equipment's & gears that should be available in general cargo handling terminal? (5 Marks)

Question 06

- (a) Name different Dry Bulk cargo carrying ships?
(5 Marks)
- (b) What are the facilities needed for a dry bulk cargo handling terminal?
(10 Marks)
- (c) Describe Dry Bulk cargo handling direct & indirect terminal operation?
(10 Marks)

Question 07

- (a) Name different Liquid Bulk cargo carrying ships?
(5 Marks)
- (b) Describe Liquid Bulk cargo handling terminal operation and name terminal facilities?
(20 Marks)

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



Faculty of Management and Social Sciences
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Year 2 Semester II

SEMESTER END EXAMINATION

Transport Economics- LTTE2211

- This paper consists of SEVEN question of FIVE (05) pages .
- Answer FOUR (04) 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 wordings of a question, make your own decision, but clearly state it on the script
- Write Legibly.

Date: 2023.03.21

Pass mark: 50%

Time: 02 Hours

Question 01

1. Why do we stated transport demands as a derived demand ? (05 marks)
2. Briefly explain why transport is plying a key role in economy. (05 marks)
3. What are the key factors effeted to determine the travel demand ? (05 marks)

By taking a highway bus person X can travel from Colombo to Matara in three hours. The same trip takes 6 hours by bus in normal way. Ticket of Highway bus is Rs 1250, and the bus fare in normal rougte is Rs 750.

4. The opportunity cost for travel by Highway bus is,
 - (a) Rs 750
 - (b) Rs 1250
 - (c) Rs 500
 - (d) None of above
 (02 marks)

5. When the allocation of resources is Pareto efficient,
- (a) Society is providing the greatest good to the greatest number
 - (b) No consumer would prefer someone else's consumption bundle to his or her own.
 - (c) It is not feasible to make someone better off without making someone worse off.
 - (d) It is feasible to make someone better off without making someone worse off.
- (02 marks)
6. Which one of following is **not corrected** related to travel demand,
- (a) States that a quantity of a travel demanded during a given period relates inversely to its price, other things constant
 - (b) Creates a downward sloping demand curve
 - (c) Travel demand downwards due income and substitution effects.
 - (d) Opportunity cost of travel by bus is higher than the travel by train in every time.
- (02 marks)
7. For long run market supply function for transport, which one of the below does not cause increase in supply
- (a) Increase in the number of transporters
 - (b) Decrease in the price of inputs
 - (c) Decrease in subsidies given to Transport
 - (d) Decrease in Taxes on Transport
- (02 marks)
8. The regulation of transport generates,
- (a) Effect on user welfare
 - (b) Effect on the quality of service
 - (c) Effect on profits
 - (d) All of these
- (02 marks)

Question 02

- (a) Briefly explain the concept of price elasticity and income elasticity related to travel demand (05 Marks)
- (b) Why do you think it is important to consider elasticity of a good or service when taking the market decisions? (05 Marks)

Table 1.1 : Elasticity co-efficient of different transport modes

Elasticity of Car traffic with respect to average price of car	-0.75
Income elasticity of Bus service respect to average income	-0.6
Car traffic with respect to public bus ticket price	+1.4

(c) Describe the different elasticity values represented in the above table, Identify what kind of good represent based on the value. ex- normal good, inferior good, substitutes good (05 Marks)

(d) True of False Questions. Please tick (✓) the correct answer.

Answer all the parts of the question.

1. Vehicle-based cost factors fuel and Engine Oil, Truck/Trailer Lease or Purchase Payments, Repair and Maintenance, Fuel, Taxes are some of Vehicle-based cost
True [] False []
 2. The demand for a transport mode decreases when price of its substitute price increases
True [] False []
 3. Profit is the difference between revenues and costs of a transport industry.
True [] False []
 4. Production function shows the maximum amount of output that can be produced From any specified set of inputs, given existing Technology
True [] False []
 5. Eco -test (emission test) is required by the government as a tool of internalization of negative externality to vehicle users.
True [] False []
- (2*5 Marks)

Question 03

- (a) Explain the determinants of travel demand of airline. (05 Marks)
- (b) Why Airlines Make Pricing Tactics (05 Marks)
- (c) "Price discrimination is the term used to describe a pricing policy in transport market" explain the concept, condition required, importance and examples related to the statement. (10 Marks)

- (d) What are benefits and disadvantages of price discrimination in transport market.
(05 Marks)

Question 04

Transport demand for a private tour bus service is calculated as $210-2p$ and also the supply of the service is $10+2p$ for a day

- (a) Calculate the equilibrium price (\$) and number of passengers that need to provide in the market at the equilibrium. (05 Marks)
- (b) Draw your answer graphically and calculate the consumer surplus and producer surplus at the equilibrium price level. (05 Marks)
- (c) Briefly explain about the monopolistic market and oligopoly market using suitable examples from transport sector. (10 marks)
- (d) Why government impose taxes to transport market and how effected to travel market changes. Briefly explain your answer. (05 Marks)

Question 05

- (a) What went well and what went wrong in transport development in the country during last seven decade of the country after independence? (10 Marks)
- (b) Developing Sri Lanka as transport and logistic hub in south Asian region what are possibilities and challengers do you identify as a transport economics student and discuss your points. Include examples, data and other related reference to support to your answer. (15 Marks)

Question 06

- (a) What is the meaning of the present value of money and future value of money?
(05 Marks)

Your company is deciding to undertake a transport project which lasts for three years. The expected total project cost is \$ 15,000 today and the expected income after three years will be \$25,000. The discount rate is 10%.

- (b) Analyze if that is a good investment or not by using Cost Benefit Analysis base on Net Present Value. (05 Marks)
- (c) Why it is important to have a cost benefit analysis before run a project?
Explain your answer. (05 Marks)
- (d) 'Transport demand forecasting is to predict future transport demand when establishing transport plans within a given budget'. Do you agree with this statement? Please support your answer using suitable examples. (10 Marks)

Question 07

Write short notes on any **FIVE (05)** of the following

- (a) Derived demand
- (b) Budget airlines
- (c) Net present Value
- (d) Transport supply
- (e) Pricing strategies
- (f) Competitive pricing
- (g) Transport cost
- (h) Sea freight
- (i) Price discrimination

(25 Marks)

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



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



Year 2 Semester II
SEMESTER END EXAMINATION
Quality Management – LTQM2215

- This paper consists of SEVEN questions on FOUR (04) pages.
- Answer FOUR (04) 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: 2023.03.15

Pass mark: 50%

Time: 02 Hours

Question 01 (Compulsory)

- (a) Muda, Mura and Muri concepts are associated with Kaizen. Explain the implication of Kaizen with appropriate examples. (10 Marks)
- (b) Just in Time (JIT) methodology has several benefits. Identify ten (10) of them and recommend five (05) specific industries that JIT is well suitable. (15 Marks)

Question 02

“Cost of Quality has three aspects called prevention cost, appraisal cost and correction cost”

Do you agree with the above statement? Justify your views with examples. (25 Marks)

Question 03

“Quality is free” concept has been introduced by Phillip B. Crosby. This concept has been argued upon the costs of quality. As a quality expert justify the phenomena with reference to multiple aspects of cost of quality. (25 Marks)

Question 04

New trends of quality are often associated with the sustainability in societies. What do you mean by "Sustainability"? Explain the modern quality trends referred by ISO on sustainability concern. (25 Marks)

Question 05

Draw a process map for the following steps;

- i. Good receipt to the Wearhouse
- ii. Inspection/any faulty or damaged item?
- iii. Management decision on the faulty or damaged item
- iv. Return or store
- v. Auditing the items
- vi. Temperature controlling
- vii. FIFO application
- viii. Outdated items? Remove or outbound
- ix. Disposing the items
- x. Loading error free items to trucks
- xi. Updating system information

(25 Marks)

Question 06

Draw a pareto digramme for the following information on a Wearhouse and identify the most important 20 % burning issues. (25 Marks)

Issue	Repetitions
1. Poor application of FIFO	15
2. No proper tools are used for activities	05
3. Some forklifts are not maintained properly	09
4. Insects are available in the premises	18
5. Some goods are not assigned for proper places	10
6. Temperature controlling is not monitored some days	02

Question 07

- (a) A manufacturing process produces 750 parts per hour. A sample part is selected about every half-hour, and after five parts are obtained, the average of these five measurements is plotted on an control chart.

Is this an appropriate sampling scheme if the assignable cause in the process results in an instantaneous upward shift in the mean that is of very short duration? If your answer is no, propose an alternative procedure. (06 Marks)

- (b) In a filling process, the weight of a Glucose packet is an important quality characteristic. The data given below are 20 such samples, each with 5 Glucose packets.

Sample No.	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Mean	Standard Deviation
1	49	52	44	46	48	X1	3.03
2	44	46	44	47	49	X2	2.12
3	44	43	47	49	47	X3	2.45
4	48	46	45	47	51	X4	2.30
5	50	46	44	41	50	X5	3.90
6	49	46	49	46	45	47.00	1.87
7	47	46	47	48	50	47.60	1.52
8	46	48	49	46	51	48.00	2.12
9	46	44	47	42	48	45.40	2.41
10	50	51	46	48	45	48.00	2.55
11	46	48	45	47	51	47.40	2.30
12	45	48	52	51	48	48.80	2.77
13	44	49	45	45	47	46.00	2.00

14	45	48	46	47	43	45.80	1.92
15	51	46	48	49	52	49.20	Y1
16	52	47	44	46	45	46.80	Y2
17	49	46	48	50	47	48.00	Y3
18	46	47	48	52	51	48.80	Y4
19	49	46	47	51	50	48.60	Y5
20	46	43	44	43	42	43.60	1.52

- (a) Find X_1, X_2, X_3, X_4, X_5 and Y_1, Y_2, Y_3, Y_4, Y_5 (05 Marks)
- (b) Calculate 3- σ trial control limits for S- Chart. (05 Marks)
- (c) Discuss whether the process is in-control or out of control (02 marks)
- (d) Calculate 3- σ trial control limits for \bar{X} - Chart. (05 Marks)
- (e) Discuss whether the process is in-control or out of control (02 Marks)

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

■ APPENDIX VI
Factors for Constructing Variables Control Charts

Observations in Sample, <i>n</i>	Chart for Averages				Chart for Standard Deviations						Chart for Ranges					
	Factors for Control Limits		Center Line	$1/c_4$	Factors for Control Limits			B_6	Factors for Center Line			Factors for Control Limits				
	<i>A</i>	<i>A</i> ₂	<i>A</i> ₃		<i>B</i> ₃	<i>B</i> ₄	<i>B</i> ₅		<i>d</i> ₂	$1/d_2$	<i>d</i> ₃	<i>D</i> ₁	<i>D</i> ₂	<i>D</i> ₃	<i>D</i> ₄	
2	2.121	1.880	2.659	0.7979	1.2533	0	3.267	0	2.606	1.128	0.8865	0.853	0	3.686	0	3.267
3	1.732	1.023	1.954	0.8862	1.1284	0	2.568	0	2.276	1.693	0.5907	0.888	0	4.358	0	2.574
4	1.500	0.729	1.628	0.9213	1.0854	0	2.266	0	2.088	2.059	0.4857	0.880	0	4.698	0	2.282
5	1.342	0.577	1.427	0.9400	1.0638	0	2.089	0	1.964	2.326	0.4299	0.864	0	4.918	0	2.114
6	1.225	0.483	1.287	0.9515	1.0510	0.030	1.970	0.029	1.874	2.534	0.3946	0.848	0	5.078	0	2.004
7	1.134	0.419	1.182	0.9594	1.0423	0.118	1.882	0.113	1.806	2.704	0.3698	0.833	0.204	5.204	0.076	1.924
8	1.061	0.373	1.099	0.9650	1.0363	0.185	1.815	0.179	1.751	2.847	0.3512	0.820	0.388	5.306	0.136	1.864
9	1.000	0.337	1.032	0.9693	1.0317	0.239	1.761	0.232	1.707	2.970	0.3367	0.808	0.547	5.393	0.184	1.816
10	0.949	0.308	0.975	0.9727	1.0281	0.284	1.716	0.276	1.669	3.078	0.3249	0.797	0.687	5.469	0.223	1.777
11	0.905	0.285	0.927	0.9754	1.0252	0.321	1.679	0.313	1.637	3.173	0.3152	0.787	0.811	5.535	0.256	1.744
12	0.866	0.266	0.886	0.9776	1.0229	0.354	1.646	0.346	1.610	3.258	0.3069	0.778	0.922	5.594	0.283	1.717
13	0.832	0.249	0.850	0.9794	1.0210	0.382	1.618	0.374	1.585	3.336	0.2998	0.770	1.025	5.647	0.307	1.693
14	0.802	0.235	0.817	0.9810	1.0194	0.406	1.594	0.399	1.563	3.407	0.2935	0.763	1.118	5.696	0.328	1.672
15	0.775	0.223	0.789	0.9823	1.0180	0.428	1.572	0.421	1.544	3.472	0.2880	0.756	1.203	5.741	0.347	1.653
16	0.750	0.212	0.763	0.9835	1.0168	0.448	1.552	0.440	1.526	3.532	0.2831	0.750	1.282	5.782	0.363	1.637
17	0.728	0.203	0.739	0.9845	1.0157	0.466	1.534	0.458	1.511	3.588	0.2787	0.744	1.356	5.820	0.378	1.622
18	0.707	0.194	0.718	0.9854	1.0148	0.482	1.518	0.475	1.496	3.640	0.2747	0.739	1.424	5.856	0.391	1.608
19	0.688	0.187	0.698	0.9862	1.0140	0.497	1.503	0.490	1.483	3.689	0.2711	0.734	1.487	5.891	0.403	1.597
20	0.671	0.180	0.680	0.9869	1.0133	0.510	1.490	0.504	1.470	3.735	0.2677	0.729	1.549	5.921	0.415	1.585
21	0.655	0.173	0.663	0.9876	1.0126	0.523	1.477	0.516	1.459	3.778	0.2647	0.724	1.605	5.951	0.425	1.575
22	0.640	0.167	0.647	0.9882	1.0119	0.534	1.466	0.528	1.448	3.819	0.2618	0.720	1.659	5.979	0.434	1.566
23	0.626	0.162	0.633	0.9887	1.0114	0.545	1.455	0.539	1.438	3.858	0.2592	0.716	1.710	6.006	0.443	1.557
24	0.612	0.157	0.619	0.9892	1.0109	0.555	1.445	0.549	1.429	3.895	0.2567	0.712	1.759	6.031	0.451	1.548
25	0.600	0.153	0.606	0.9896	1.0105	0.565	1.435	0.559	1.420	3.931	0.2544	0.708	1.806	6.056	0.459	1.541

$$A = \frac{3}{\sqrt{n}} \quad A_3 = \frac{3}{c_4 \sqrt{n}} \quad c_4 \equiv \frac{4(n-1)}{4n-3}$$

$$B_3 = 1 - \frac{3}{c_4 \sqrt{2(n-1)}} \quad B_4 = 1 + \frac{3}{c_4 \sqrt{2(n-1)}}$$

$$B_5 = c_4 - \frac{3}{\sqrt{2(n-1)}} \quad B_6 = c_4 + \frac{3}{\sqrt{2(n-1)}}$$

For $n > 25$.

Libras

00065



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

Year 2 Semester II
SEMESTER END EXAMINATION
Procurement Management – LTPM2214

- This paper consists of SEVEN questions on FIVE (05) pages.
- Answer FOUR (04) 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: 2023.03.13

Pass mark: 50%

Time: 02 Hours

Question 01 (Compulsory)

Procurement is the strategic management of the supply chain for organizations. It is crucial to the overall success of any organization. Purchasing costs can represent over 50% of an organization's revenue. A lack of strategic decisions regarding supply can sink an otherwise profitable company. In addition, excessive wastage in the supply chain can hurt a company's reputation and bottom line.

- (a) Define "Purchasing". (05 Marks)
- (b) Use below characteristics and fill the differentiation table given below.

The straightforward method of purchasing commodities, Follows a proactive approach to spot and fulfil needs, Consideration of steps happen after, during, and before purchase, Follows a reactive approach to satisfy internal needs, Activities related to acquiring goods and services, Used in a wholesale environment (external process), Functions associated with buying goods and services, Used in a production environment (internal process), Puts more importance on an item's value than its cost, Transactional-focuses on transactions

than vendor relationships, Tends to focus more on the item's price than its value, Relational-focuses on creating long-term vendor relationships, Includes multiple stages and has numerous people involved, Has long-term goals like gaining competitive advantage for the business, Aimed at ordering and paying for goods, Has short-term goals like obtaining the necessary goods at the right time, Focused on creating and maintaining strong supplier relationships, Focused on making transactions, Aimed at recognizing and satisfying the company's internal needs, Fewer steps and fewer employees involved

Procurement	Purchasing

(20 Marks)

Question 02

Strategic sourcing is used in the procurement process to achieve the best pricing for a product or service. The key objectives are to minimize costs, improve supplier performance, and reduce the risk of failure.

- (a) What are the three main steps of strategic analysis? (03 Marks)
- (b) Write down two out of three types of purchasing systems? (02 Marks)
- (c) Explain how to develop a procurement strategy. (20 Marks)

Question 03

If an organization decides to "buy" from one or more outside sources, it must select the type of contract it needs. In selecting what type of contract to use, the primary objective is to have risk distributed between the buyer and seller so that both parties have motivation and incentives for meeting the contract goal.

(a) What is referred as a "Contract"? (05 Marks)

(b) Describe the types of fixed price contracts. (20 Marks)

Question 04

Good companies practicing CSR practices in every aspect including procurement are able to receive higher rewards, reduce employee turnover, have Transparent & famous supply chains & build up deeper brand connections.

(a) Give another name for CSR. (05 Marks)

(b) Name two types of business drivers for CSR procurement with two examples per each type. (10 Marks)

(c) Having a sustainable specification is an important part of the sustainable procurement process. Propose and justify key sustainability criteria for inclusion in purchase specifications for products and services. (10 Marks)

Question 05

It is the process of sourcing goods and services from the international market across geopolitical boundaries. It aims to exploit global efficiencies such as lower cost skilled labor, cheaper raw materials and other economic factors like tax breaks and low trade tariffs. Examples are call centers in the Philippines, clothing and shoes manufactured in China and Thailand.

(a) Name five problems when practicing international sourcing? (05 Marks)

(b) Narrate the benefit of global sourcing. (20 Marks)

Question 06

It is important to know which Incoterms® are applicable in 2023 as they determine the responsibilities of buyers and sellers. Additionally, incorrect Incoterms® can result in costly errors or delays in international trade.

(a) Which organization published Incoterms? (01 Marks)

(b) Fill the second column of below tables. (11 Marks)

Code	Name in English
FAS	
FOB	
CFR	
CIF	

Incoterm Code	Name in English
EXW	
FCA	
CPT	
CIP	
DAP	
DPU	
DDP	

- (c) Which incoterm indicates the highest responsibility on seller? (02 Marks)
- (d) Which incoterm indicates the highest responsibility on buyer? (02 Marks)
- (e) What is the difference between CFR & CIF? (05 Marks)
- (f) There was an incoterm called DAT in the past version - Incoterm® 2010. Which incoterm replaced it in the newest version Incoterm® 2020? (02 Marks)
- (g) Seller is only responsible for delivery to the named place. The seller is responsible for the loading. Risk and cost are transferred to the buyer as soon as delivered at the named place. Unloading is the buyer's responsibility. Which incoterm has these characteristics? (02 Marks)

Question 07

It is evident that the learning curve is a helpful tool for part purchasing negotiations. In most cases, the curve fits well with the supplier pricing quotations, assuming the fixed and variable costs dominated. In the case where the fit is not as smooth, it could be caused by the quasifixed cost or step variable cost in the supplier pricing analysis.

(a) Mark True/False for below statements about learning curve.

- (i) Learning curve does not describe a practical reality. (-----)
- (ii) When labor intensive tasks are repeated, the initial difficulties encountered for the first time are progressively solved and subsequent iterations take less labour and hence cost is less. (-----)

(05 Marks)

(b) Draw and explain learning curve highlighting why should purchasers be concerned with learning curves? (20 Marks)

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

Library

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

Year 2 Semester II
SEMESTER END EXAMINATION
Human Resource Management – LTHR2212

- This paper consists of SEVEN questions on EIGHT (08) pages.
- Answer FOUR 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: 2023.03.11

Pass mark: 50%

Time: 02 Hours

Question 01:(Compulsory)

SELECT MOST APPROPRIATE ANSWER OUT OF THE GIVEN CHOICES.

1. Two strategic goals of Human Resource Management (HRM) are;
 - (a) To improve Employee Productivity, To procure right people at the right time to do the right jobs.
 - (b) To improve Employee Productivity, Employee Development
 - (c) Employee Development, To procure right people at the right time to do the right jobs.
 - (d) To ensure Customer Compliance, To retrain the most appropriate employees within the organization.
2. HRM is a process of and utilization of human resource in order to achieve organizational goals
 - (a) suitably, productive

7. First step of Job analysis process is;
- (a) Familiarize with the nature and the type of the organization
 - (b) Identify jobs available and select the job(s) to be analyzed
 - (c) Develop Job Analysis Information Format
 - (d) Identify the method to Collect Data
8. Which method of data collection in Job Analysis helps to understand the job genuinely
- (a) Interview
 - (b) Questionnaire
 - (c) Observation
 - (d) Participation
9. Main goal of HRM is to and an appropriate work force which gives the maximum contribution to the attainment of primary goals of the organization
- (a) provide, maintain
 - (b) handle, maintain
 - (c) provide, handle
 - (d) maintain, direct
10. Two consequences of poor HRP
- (a) Over staff, High productivity
 - (b) Law productivity, Optimum level of staff
 - (c) Over staff, Law productivity
 - (d) High productivity, Optimum level of staff
11. Which HRM function helps to determine future needs of employees
- (a) Job Analysis
 - (b) Human Resource Planning
 - (c) Job Design

(d) Recruitment

12. Job is;

- (a) a group of related activities and duties
- (b) an effective and efficient utilization of work
- (c) a group of related activities performed by a person
- (d) an effective and efficient utilization of a person for work activities

13. Recruitment process starts from

- (a) Ascertain Job Requirement
- (b) Identify Job Vacancies
- (c) Consider Factors affecting Recruitment
- (d) Receive Applications

14. Two importance of recruitment are;

- (a) To select qualified people, To attract an adequate number of job applicants
- (b) To discover qualified people, To attract an more number of job applicants
- (c) To discover people, To attract an adequate number of job applicants
- (d) To discover qualified people, To attract an adequate number of job applicants

15. Simply productivity improvement means;

- (a) doing best in tomorrow
- (b) doing best in today
- (c) doing better on tomorrow than today
- (d) increase the output

(01 Mark * 15 = 15 Marks)

16. Inputs and Requirements to selection

- (a) High Standards, High Selection Ratio
- (b) High Selection Ratio, Low Budget
- (c) High Selection Ratios, Good Selectors
- (d) Good Selection Ratio, Good Selectors

17. To establish or maintain an image as a good employer is an importance of;

- (a) Selection
- (b) Recruitment
- (c) Job Design
- (d) Job Analysis

18. Objectives of Human Resource Planning;

- (a) To ensure optimum use of human resource currently employed; To get the right person for the job vacancy
- (b) To get the right person for the job vacancy; To cost the human resource component in new projects
- (c) To establish or maintain an image as a good employer; To get the right person for the job vacancy
- (d) To ensure optimum use of human resource currently employed; To cost the human resource component in new projects

19. Three stages of Schein's Socialization Model

- (a) Commencement, Socialization, Mutual Acceptance
- (b) Entry, Induction, Mutual Acceptance
- (c) Entry, Socialization, Mutual Acceptance
- (d) Entry, Socialization, Agreement

20. Steps of Induction program

- (a) Preparation, Data Collect, Follow up and Evaluation
- (b) Preparation, Conduct, Follow up and Evaluation
- (c) Preparation, Conduct, Maintain
- (d) Planning, Conduct, Follow up

(02 Marks * 5 = 10 Marks)

Question 02

Umanga Product Company has recently hired a Personnel Assistant, Nirmala Piyumi. Nirmala just received a University degree in Business Administration with second class (lower) honours. Hemantha, the Personnel Manager, was extremely pleased to find someone who had some familiarity with basic management concepts and theory of personnel management and industrial relations since he was the entire Personnel Department, except for a clerk-typist.

During the interview Hemantha emphasized that he planned to have Nirmala to work as his assistant and that she would do some interviewing and be responsible for maintaining employee records. Because the company has had about 350 employees, Hemantha had been too busy to prepare anything a job description except for some scrawled notes on the back of an envelope. Everything went fine for the first week for Nirmala. On Monday of the second week, Hemantha called Nirmala into his office room and explained that there was another minor duty that he had not mentioned to her. Hemantha said, "In order to get approval to hire you from CEO, I had to agree that whoever was hired would be the relief receptionist from 11.30a.m. to 12.30p.m. every day. The reception board is usually quite busy, and we wanted to be sure someone who is capable would be the backup. "Nirmala was not happy about this assignment being sprung on her, but she agreed to try it for a while.

Within two weeks she was beginning to dread having to work the reception board an hour every day. Also, she discovered that she was expected to be the relief if the receptionist was sick or unable to work. On Wednesday and Thursday of the third week then regular receptionist was sick, and Nirmala worked for her. On that Friday, Nirmala

told Hemantha she was quitting in two weeks. When asked why, Nirmala replied, "You misrepresented the job to me. You never said anything about my receptionist duties. If you had, I probably would not have taken the job."

- (a) What is /are the problem/s being faced by the Company? (06 Marks)
- (b) Explain why the company is facing the problem/s. (09 Marks)
- (c) How do you solve the problem/s? (10 Marks)

Source: Adapted from Mathis and Jackson, 1979

Question 03

- (a) Identity three unique characteristics of HR. (03 Marks)
- (b) Briefly explain two strategic goals of HRM (08 Marks)
- (c) Explain the importance of HRM to all managers. (14 Marks)

Question 04

- (a) Briefly explain the two components of Job. (06 Marks)
- (b) What are the techniques of Job Design? Describe each technique briefly. (08 Marks)
- (c) Briefly explain the Job - Person Fit concept in HRM. (11 Marks)

Question 05

- (a) Identify three objectives of HRP. (03 Marks)
- (b) Briefly explain two forecasting techniques that can be used in HRP. (08 Marks)
- (c) Describe the last step of HRP. (14 Marks)

Question 06

- (a) Define the term "Recruitment". (03 Marks)
- (a) "Recruitment is a very important human resource management function."
Explain this statement. (08 Marks)
- (b) "It is more appropriate to fill job vacancies in an organisation internally through promotions." Do you agree with this statement or not? Why? (14 Marks)

Question 07

- (a) Identify three importance of Selection (03 Marks)
- (b) Briefly explain the four outcomes of Selection. (08 Marks)
- (c) Describe the requirements for effective Selection process. (09 Marks)

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



Faculty of Management and Social Sciences
Department of Logistics and Transport
BSc (Hons) in Logistics and Transportation
Course Code: COM551



Year 2 Semester II

REPEAT EXAMINATION

Human Resource Management- LTHR2212

- This paper consists of SEVEN(07) questions on Nine (09) pages.
- Answer **FOUR (04)** 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.

Date: 2023.01.22

Pass mark: 50%

Time: 02 Hours

Question 01:(Compulsory)

SELECT MOST APPROPRIATE ANSWER OUT OF THE GIVEN CHOICES.

1. First step of the Job Analysis process is;

- (a) Identify jobs available and select the job(s) to be analyzed
- (b) Familiarize with the nature and the type of the organization
- (c) Develop Job Analysis Information Format
- (d) Identify jobs available to be analyzed

2. Job is;

- (a) a group of related activities and duties
- (b) an effective and efficient utilization of work
- (c) a group of related activities performed by a person
- (d) an effective and efficient utilization of a person for work activities



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Course Code: COM551

3. Recruitment process starts from;
 - (a) Identify Job Vacancies
 - (b) a traditional work schedule in which employee works for fewer days per week but more hours for each day of working
 - (c) Familiarize with the nature and the type of the organization
 - (d) Identify jobs available to be analyzed

4. Job Analysis is a process of examining jobs in order to identify
 - (a) the results that are expected to be achieved
 - (b) the results that can be achieved
 - (c) the results that are achieved
 - (d) the results that can not be achieved

5. Selection means choosing the most person for an organization the results that are expected by job holder
 - (a) qualified
 - (b) appropriate
 - (c) educated
 - (d) experienced

6. can be used to familiarize with the nature and the type of the organization
 - (a) Departmental plan
 - (b) Strategic plan
 - (c) Tactic plan
 - (d) Operational plan



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7. Errors of the selection decision;
- (a) False negative, False positive
 - (b) False positive, True positive
 - (c) True positive, True negative
 - (d) True negative, False negative
8. Three purposes of performance evaluation
- (a) Administrative, Development, Information
 - (b) Administrative, Training, Information
 - (c) Planning, Development, Information
 - (d) Administrative, Planning, Information
9. Disciplinary inquiry starts from
- (a) Primary Report
 - (b) Preliminary Investigation
 - (c) Verbal Warning
 - (d) Written Warning
10. First step of Human Resource Planning (HRP)
- (a) Estimate Supply of HR
 - (b) Forecast Future Needs for HR
 - (c) Decide Strategies
 - (d) Compare the Forecasted Demand of HR with Supply



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11. Characteristics of performance evaluation criteria
- (a) Relevance, Sensitivity
 - (b) Relevance, Timely
 - (c) Timely, Sensitivity
 - (d) Timely, Correctly
12. Selection means choosing the most person for an organization the results that are expected by job holder
- (a) qualified
 - (b) appropriate
 - (c) educated
 - (d) experienced
13. Three things should be acquired through learning
- (a) experience, skills, and attitudes
 - (b) knowledge, skills, and attitudes
 - (c) knowledge, experience, and attitudes
 - (d) knowledge, skills, and experience
14. Recruitment is a method of finding qualified people for job vacancies
- (a) Most
 - (b) Suitably
 - (c) Correctly
 - (d) Timely



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15. Last step of Hiring

- (a) Appointment for the waiting list
- (b) Notification of Job Offer
- (c) Preparation of the Appointment
- (d) Entering the Job Contract

(01 Mark*15 = 15 Marks)

16. Different Categories of Development

- (a) Management, Non-Management, Staff
- (b) Non-Management, Organisational, Staff
- (c) Management, Organisational, Non-Management
- (d) Management, Staff, Non-Management

17. A grievance is

- (a) a complaint
- (b) only a dissatisfaction in job
- (c) any feeling of discontent or dissatisfaction
- (d) a complaint, dissatisfaction related to job

18. Different Types of Disciplines

- (a) Preventive, Corrective, Progressive
- (b) Preventive, Selective, Progressive
- (c) Selective, Corrective, Progressive
- (d) Preventive, Corrective, Selective



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19. A good grievance handling procedure should be

- (a) Simple
- (b) Critical
- (c) Easy
- (d) Sensitive

20. Health is a

- (a) General state of mental, physical wellbeing
- (b) General state of managing mental, physical wellbeing
- (c) General state of physical and emotional wellbeing
- (d) General state of mental, physical and emotional wellbeing

(02 Marks*5 = 10 Marks)

Question 02

Mr. Gunathilake is the Managing Director of a medium size manufacturing firm producing bags in the Free Trade Zone. The firm that had been recently started had many vacancies and the MD decided to use paper advertisement as the method of recruitment and published the following advertisement prepared by himself on the newspaper namely Sunday Observer, February 04, 1999.



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Vacancies

B.O.I. approved bags manufacturing company requires the services of the following for immediate employment.

1. Personal manager
2. Purchasing officer (Female)
3. Quality Controllers (Female)
4. Computer Designers
5. Computer Operator
6. Electricians]
7. Mechanics
8. Drivers
9. Factory Maintenance officer (Male)

M Director
 BAGS LANKA (PVT) LTD
 22/3, Hantyhota Road
 Arangala
 Malabe

After three weeks the MD checked the number of applications and observed the following:

Job	Number of Applications	Number of qualified Applicants
1. Personnel manager	04	None
2. Purchasing Officer (Female)	05	02
3. Quality Controllers (Female)	02	02
4. Computer Designers	08	04
5. Computer Operator	10	08



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6. Electricians	02	02
7. Mechanics	None	--
8. Drivers	None	--
9. Factory Maintenance Officer (Male)	03	01

Having become unhappy about the effectiveness of the advertisement the MD decided to contact one of his good friends who was an Accountant who suggested repeating he advertisement in the same paper.

- (a) What is the problem explaining above? (03 Marks)
- (b) What are the reasons to the problem? (05 Marks)
- (c) Do you agree with the friend's suggestion or not? Why? (07 Marks)
- (d) What are the solutions that you suggest for the problem? (10 Marks)

Question 03

- (a) "Human Resource Management (HRM) is the human side of organizational management or business administration."
 Define the term "Human Resource Management". (03 Marks)
- (b) Briefly explain the Main goal of HRM. (07 Marks)
- (c) There are several strategic goals of HRM in order to achieve the main goal of HRM.
 Explain three from that. (15 Marks)



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Question 04

- (a) Define the term "Job Design"? (03 Marks)
- (b) Why job designing is significant? Briefly explain. (10 Marks)
- (c) Briefly explain the Job - Person Fit concept in HRM. (12 Marks)

Question 05

- (a) Identify three types of things can be used to familiarize about the organization in Job Analysis. (03 Marks)
- (b) Briefly explain the two methods of collecting data for Job Analysis. (10 Marks)
- (c) Briefly explain four benefits of Job Analysis. (12 Marks)

Question 06

- (a) Define the term HRP (Human Resource Planning). (03 Marks)
- (b) Explain the Human Resource Planning process. (10 Marks)
- (c) What strategies are available to an organisation when there is a shortage of employees? A surplus of employees? Briefly explain each. (12 Marks)

Question 07

- (a) Define what "selection" means. (03 Marks)
- (b) "Selection is a very important human resource management function." Explain this statement. (10 Marks)
- (c) Is it essential to hold a background investigation in employee selection? "background selection should be applied very carefully as a method of employee selection." Discuss. (12 Marks)

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



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Year 2 Semester II

REPEAT EXAMINATION

Procurement Management- LTPM2214

- This paper consists of SEVEN (07) questions on FOUR (04) pages.
- Answer FOUR (04) 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.

Date: 2023.01.22

Pass mark: 50%

Time: 02 Hours

Question 01 (Compulsory)

When it comes to contracts, there is more than one way to make an agreement. These different types of contracts in procurement offer a variety of risks for one party or the other and are suitable for construction projects where the scope is more or less certain from the start.

- Contracts should be and binding. It is best to get the contract in writing.
 (First word starts with F and Second word starts with L) (05 Marks)
- Siri is procurement manager for a software company. He is contracting a long-term software project with a third-party company. That company charges him \$200/hour per employee and \$1000 overhead per month. What is this contract type? (05 Marks)
- What is the primary objective of negotiation?
 (Identifying scope of contract, Find a win-win proposition for both parties, Segregate the exact responsibilities of each party, Confirm the best deal possible) (05 Marks)



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- (d) A cost-plus incentive fee (CPIF) contract has an estimated cost of \$150,000 with a predetermined fee of \$15,000 and a share ratio of 80/20. The actual cost of the project is \$130,000. How much profit does the seller make? (05 Marks)
- (e) Imagine that your organization is the seller that is bidding on a contract. Which type of contract has the most risk for your organization? (05 Marks)

Question 02

Procurement is a complex discipline spanning many interrelated activities. And also, it is an umbrella term that includes several core business functions and should form a key role in corporate strategy.

- (a) Briefly explain the difference of procurement & purchasing in four or five sentences. (05 Marks)
- (b) Explain any three of the '5 rights of procurement' including how each might be achieved. (20 Marks)

Question 03

Public procurement creates opportunities and challenges equally the programmes and projects. Usually, when launching an acquisition, we deal with questions such as which elements of the public contracts we need to handle carefully to avoid errors.

- (a) Define the term "public procurement". (05 Marks)
- (b) Illustrate Firm-Fixed-Price contract (FFP), Time and Material contract (T&M) & Costs Plus Incentive Fee contract (CPIF). (20 Marks)



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Question 04

Procurement isn't just about delivering materials on-time, with less risk and at less cost. Social responsibility is now an integral part of the procurement landscape.

- (a) Briefly explain the scope of Corporate Social Responsibility (CSR). (05 Marks)
- (b) Discuss of the drivers for Socially Responsible Procurement. (20 Marks)

Question 05

Speed is vital to global sourcing and shipping operations, but it requires planning and preparation. Inadequate preparation is the most preventable and costly cause of shipping inefficiency. Planning for all the contingencies that impact global sourcing, particularly contract terms, is essential. INCOTERMS help avoid the confusion created by varied interpretations of the rules in different countries. They specify the exporting seller's and importing buyer's obligations regarding carriage, risk, and costs, and establish basic transport and delivery terms.

- (a) INCOTERMS can be segregated into two different types based on method of freight payment. Name them and give two examples per each. (05 Marks)
- (b) Explain why international sourcing is needed. (20 Marks)

Question 06

Capital equipment has been defined as one of the sub classes of the fixed asset category that includes industrial and office machinery and tools, transportation equipment, furniture and others.

- (a) Name three important characteristics of capital equipment. (05 Marks)
- (b) Discuss the risks facing when acquiring capital equipment. (20 Marks)



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Question 07

Write short notes for selected five topics.

- (a) Problems in International Sourcing
- (b) Types of Capital Equipment
- (c) Negotiation Strategies
- (d) Procurement Auction
- (e) Why does commodity prices fluctuate?
- (f) Attributes of a Good Supplier

(5*5 Marks)

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

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Year 2 Semester II

REPEAT EXAMINATION

E-Commerce- LTEC2210

- This paper consists of SEVEN (07) questions on FIVE (05) pages.
- Answer FOUR (04) 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.

Date: 2023.01.21

Pass mark: 50%

Time: 02 Hours

Question 01 (Compulsory)

- a) Differentiate ecommerce and e business (02 Marks)
- b) Briefly explain what is information right relevant to ecommerce. (02 Marks)
- c) Write down one strength and one weakness of online payments. (02 Marks)
- d) Who are the five parties involved in online credit card transactions? (02 Marks)
- e) What is integrity in ecommerce security? (02 Marks)
- f) Compare and contracts pure traditional ecommerce and pure electronic ecommerce (02 Marks)
- g) Write down two responsibilities of ICTA. (02 Marks)
- h) What is golden rule of ethics in ecommerce? (02 Marks)
- i) List down four B2B models that help to connect trading partner community (02 Marks)
- j) Why some people don't shop online? Briefly explain two reasons. (02 Marks)
- k) What are the three major points of vulnerability in ecommerce security? (03 Marks)
- l) What is a phishing attack? (02 Marks)



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Question 02

In B2C business model, business process happen as follows.

Once a demand occurs for a particular product, the consumers search available items on the e-marketplaces, which would fulfil that requirement. The consumers compare similar items for a price, delivery date or any other terms. Then place the order and pays the bill. Finally, they receive the delivered item and review/inspect them.

Consults the vendor to get after-service support or returns the product if not satisfied with the delivered product.

- a) Select one of the major players in the B2C market (Locally or internationally) and describe their business process referring to the given general business process flow. Identify the business strategies they have used to enhance the service quality and customer experience (15 Marks)
- b) Compare the selected business model with a traditional business model in the same market and discuss the key differences as advantages and disadvantages. (10 Marks)

Question 03

- a) Briefly explain what ecommerce is. (03 Marks)
- b) Briefly explain following three features in ecommerce.
 - Ubiquity
 - Personalization/customization
 - Universal standards
 - Richness (12 Marks)
- c) Explain two types of major B2C business models providing examples for each. (05 Marks)



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- d) Explain two types of major B2B business models providing examples for each. (05 Marks)

Question 04

- a) List two differences between online store and a physical store. (02 Marks)
- b) Briefly explain the online credit card transaction process. (08 Marks)
- c) Briefly explain three limitations of online credit card transaction process. (06 Marks)
- d) List down three other online payment systems apart from credit cards. (03 Marks)
- e) Discuss in detail about two of online payment systems that you have listed in above part d. (06 Marks)

Question 05

The introduction of new technology can have a profound effect on human behaviour. New technologies give us capabilities that we did not have before, which in turn create environments and situations that have not been specifically addressed in ethical terms. Those who master new technologies gain new power; those who cannot or do not master them may lose power. For example, the ability to anonymously make perfect copies of digital music has tempted many music fans to download copyrighted music for their own use without making payment to the music's owner. Many of those who would never have walked into a music store and stolen a CD find themselves with dozens of illegally downloaded albums.

One method for navigating new ethical waters is a code of ethics. A code of ethics is a document that outlines a set of acceptable behaviours for a professional or social group; generally, it is agreed to by all members of the group. The document details different actions that are considered appropriate and inappropriate. A good example of a code of ethics is the Code of Ethics and Professional Conduct of the Association for Computing Machinery, an organization of computing professionals that includes academics, researchers, and practitioners. In the ACM's code, you will find many straightforward



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ethical instructions, such as the admonition to be honest and trustworthy. But because this is also an organization of professionals that focuses on computing, there are more specific admonitions that relate directly to information technology.

No one should enter or use another's computer system, software, or data files without permission. One must always have appropriate approval before using system resources, including communication ports, file space, other system peripherals, and computer time. Designing or implementing systems that deliberately or inadvertently demean individuals or groups is ethically unacceptable. Organizational leaders are responsible for ensuring that computer systems enhance, not degrade, the quality of working life. When implementing a computer system, organizations must consider the personal and professional development, physical safety, and human dignity of all workers. Appropriate human-computer ergonomic standards should be considered in system design and in the workplace.

- a) What do you mean by a computer crime? (03 Mark)
- b) Explain two ways of committing computer crimes that can be eliminated by strictly following Code of Ethics by ACM. (06 Marks)
- c) "Threat from hackers and crackers can be eliminated by strictly following Code of Ethics by ACM."
Do you agree? Justify your answer with examples from case. (06 Marks)
- d) Who commits computer crimes? (04 Marks)
- e) Explain which groups who can commit computer crimes are blocked by Code of Ethics by ACM. Give examples from case. (06 Marks)

Question 06

- a) What is an ethical dilemma? (02 Marks)
- b) Provide an example for an ethical dilemma relevant to ecommerce. (04 Marks)
- c) Analyse the above-mentioned ethical dilemma in part b) using five (5) steps analysis. (10 Marks)
- d) Briefly explain three major types of intellectual property protection mechanisms by using examples. (09 Marks)



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Question 07

Write short notes.

(5*05 Marks)

- a) Difference between ecommerce and ebusiness
- b) Tension between eCommerce security and other values.
- c) Challenges faced in B2B eCommerce
- d) PayPal
- e) Utilitarian Principle in ethics

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



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Year 2 Semester II

REPEAT EXAMINATION

Shipping Management- LTSM2209

- This paper consists of SEVEN (07) questions on THREE (03) pages.
- Answer FOUR (04) 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.

Date: 2023.01.21

Pass mark: 50%

Time: 02 Hours

Question 01 (Compulsory)

An agent should always work in the best interest of the principal as the principal is always the one that pays the bill. Unfortunately, this does not always materialize in real life, especially so for ship agencies.

- (a) The principal-agent relationship exposes several duties upon the agent because of the contractual nature of the relationship.
- (i) Who is a ship agent? (02 Marks)
 - (ii) Write down four duties of a ship agent. (08 Marks)
 - (iii) Sea-port operations are affected by a vast area of geopolitical, economic & technological developments. Also, changes in global production & international trade affect port activity levels & operations. The demand for port traffic is decided by world trade. What is the economic term used to express this nature of shipping? (01 Marks)



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(b) A legal document called "X" is issued by the carrier to the shipper when shipping goods internationally, and it is an essential element of the process. It is used as proof of shipment. This is particularly important for use in the customs process, insurance, and financial instruments. It is also used as commercial proof to show agreements have been fulfilled.

- (i) What is "X"? (01 Marks)
- (ii) What are the main three functions of this document? (03 Marks)
- (iii) Give five facts indicating as content information in this specific document. (10 Marks)

Question 02

A CFS is located close to a port, terminal or inland container depot (more on this later). It might sometimes be found near a major railway hub as well. Container freight stations are owned by shipping lines and terminals or are privately owned. A CFS is involved in the import-export business at the points of origin and destination. Container freight stations are, thus, categorised as "origin CFS" and "destination CFS". Elaborate the concept of CFS & its functions in a broad view. (25 Marks)

Question 03

The UCP 600 replaced the UCP 500 on the 1st July 2007. It was brought about to standardise a set of rules aiming to benefit all parties during a trade finance transaction. UCP 600 was created by industry experts, and mandated by the Banking Commission, rather than through legislation.

- (a) UCP had been revised six times in the history so far.
 - (i) What does mean by the short form UCP? (02 Marks)
 - (ii) How many articles are there in UCP 600? (02 Marks)
 - (iii) Name three major parties involved in documentary credit transactions. (06 Marks)

(b) UCP 600 play a vital role in international trade today.



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- (i) Summarize the importance of UCP 600 in shipping industry. (05 Marks)
- (ii) Explain any four articles of UCP 600. (10Marks)

Question 04

Dangerous goods can exist in solid, liquid and gaseous form. They can be colourless or coloured, hot or cold, odourless or pungent. They can be corrosive chemicals, explosives, batteries or even daily-use items such as hair spray, perfume, aftershave, liquor and cigarette lighters. Illustrate dangerous cargo handling precautions including a proper definition for them. (25 Marks)

Question 05

Draw down a structure of a typical documentary Letter of Credit transaction & explain the steps in an order. (25 Marks)

Question 06

Most commonly a protest is in connection with cargo, although one may be written about almost any matter. It may help to substantiate a claim by owners (or refute a claim by charterers, a harbor authority, etc.), and may prove useful, if properly filed, when a dispute is being resolved long after the related event. Provide a lengthy discussion on note of protest while highlighting when the note of protest is applicable. (25 Marks)

Question 07

When a ship is taken on rent, it is known as ship chartering. Just as people take an apartment or a car for rent, some people may rent a ship based on their requirements. It could be to transport passengers or cargo. Discuss the three main chartering types separately. (25 Marks)

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



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Year 2 Semester II

REPEAT EXAMINATION

Quality Management – LTQM2215

- This paper consists of SEVEN (07) questions on NINE (09) pages.
- Answer FOUR 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 legible.
- Supporting documents are attached.

Date: 2023.01.14

Pass mark: 50%

Time: 02 Hours

Question 01 (Compulsory)

- Define "Quality Management" as per ISO definition (05 Marks)
- Provide 05 examples for "Hidden costs" of a failure (05 Marks)
- Cost of quality has three aspects as prevention cost, appraisal cost and failure costs. Discuss the nature of failure costs. (10Marks)

Question 02

Briefly explain the following quality tools.

- Kaizen
- 5S
- Lean Manufacturing
- Fishbone diagrams



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e) Pareto charts

(05*05 Marks)

Question 03

Draw a process map for the following steps.

1. Customer inquiry
2. Providing info.
3. Wait for customer feedback (3 days max.)
4. Purchase intention?
5. Assist providing specific info. / record customers' info for future follow-up
6. Send the order info. to warehouse and support services for confirmation (wait one hr max.)
7. Order confirmation-yes/no
8. Create sales order
9. Receive payments and send the goods to customer

(25 Marks)

Question 04

"Sustainable goals and environmental management efforts in organizations are linked together"

Discuss the above phenomena while highlighting environmental protection efforts in various organizations.

(25 Marks)

Question 05

Write short notes on 05 selected topics mentioned below

- a) Smart cities and sustainable cities
- b) ISO 9001 and process approach



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- c) "Quality is free"
 - d) International Standards Organization (ISO)
 - e) Supplier selection criterions and quality
 - f) Inspection and Waive off
- (5*05 Marks)

Question 06

In a filling process, the weight of a Glucose packet is an important quality characteristic. The data given below are 20 such samples, each with 5 Glucose packets.

Sample No.	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Mean	Standard Deviation
1	49	52	44	46	48	47.80	3.03
2	44	46	44	47	49	X1	Y1
3	44	43	47	49	47	46.00	2.45
4	48	46	45	47	51	X2	Y2
5	50	46	44	41	50	46.20	3.90
6	49	46	49	46	45	47.00	1.87
7	47	46	47	48	50	47.60	1.52
8	46	48	49	46	51	48.00	2.12
9	46	44	47	42	48	X3	Y3
10	50	51	46	48	45	48.00	2.55



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11	46	48	45	47	51	47.40	2.30
12	45	48	52	51	48	48.80	2.77
13	44	49	45	45	47	46.00	2.00
14	45	48	46	47	43	X4	Y4
15	51	46	48	49	52	49.20	2.39
16	52	47	44	46	45	46.80	3.11
17	49	46	48	50	47	48.00	1.58
18	46	47	48	52	51	X5	Y5
19	49	46	47	51	50	48.60	2.07
20	46	43	44	43	42	43.60	1.52

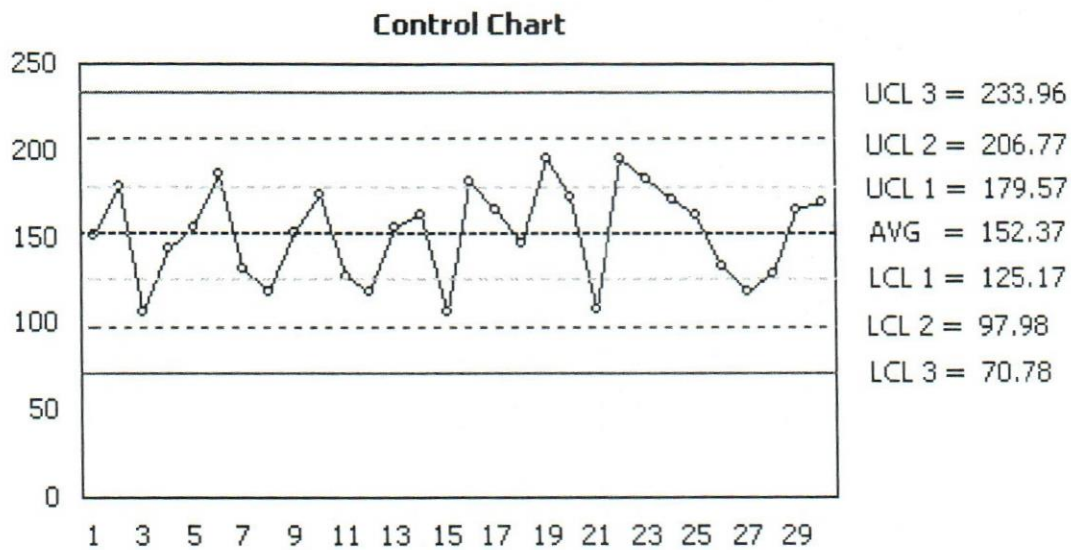
- a) Find $X_1, X_2, X_3, X_4, X_5, Y_1, Y_2, Y_3, Y_4, Y_5$. (05 Marks)
- b) Calculate 3- σ trial control limits for S- Chart. (04 Marks)
- c) Discuss whether the process is in-control or out of control (02 marks)
- d) Discuss the validity of the trial control limits. (02 marks)
- e) Calculate 3- σ trial control limits for \bar{X} - Chart. (04 Marks)
- f) Discuss whether the process is in-control or out of control (02 Marks)
- g) Discuss the validity of the trial control limits. (02 Marks)
- h) If trial control limits are invalid recalculate trial control limits and discuss the validity. (04 Marks)



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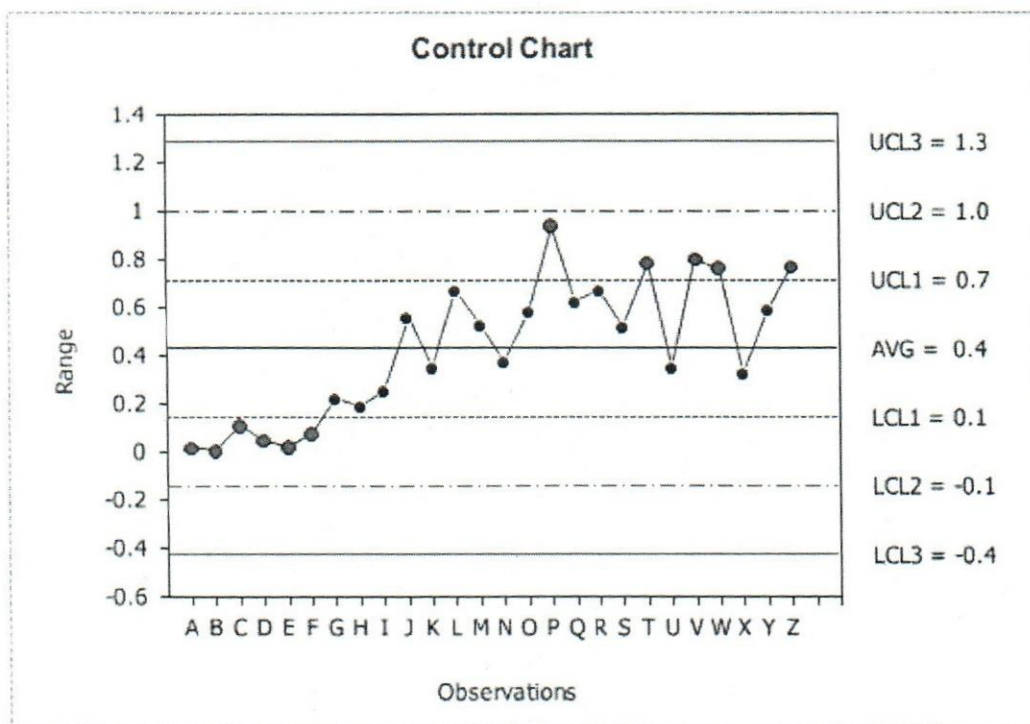
Question 07

- (a) Apply the Western Electric rules to the control charts given below. Are any of the criteria for declaring the process out of control satisfied? (10 Marks)





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(b) Data given below is about number of defective units found in quality inspection process carried out in a manufacturing firm of "glass frames".

Table 8.01

Sample number i	Sample size n_i	Number of defectives D_i	Probability of defectives P_i
1	47	9	
2	50	6	
3	48	10	
4	49	8	
5	46	5	
6	47	8	
7	45	5	
8	48	7	



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9	46	10	
10	46	8	
11	46	6	
12	49	8	
13	46	9	
14	46	15	
15	47	20	
16	50	6	
17	48	10	
18	48	16	
19	48	11	
20	49	12	
21	50	10	
22	46	9	
23	47	6	
24	47	8	
25	46	12	

- (a) Calculate 3- σ trial control limits for probability of defectives. (Calculate this based on an average sample size) (10 Marks)
- (b) Write null hypothesis and alternative hypothesis. (02 Marks)
- (c) Discuss whether the process is in-control or out of control (03 Marks)

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

APPENDIX VI

Factors for Constructing Variables Control Charts

Observations in Sample, <i>n</i>	Chart for Averages				Chart for Standard Deviations						Chart for Ranges					
	Factors for Control Limits		Factors for Center Line		Factors for Control Limits			Factors for Center Line			Factors for Control Limits					
	<i>A</i>	<i>A</i> ₂	<i>A</i> ₃	<i>c</i> ₄	<i>1/c</i> ₄	<i>B</i> ₃	<i>B</i> ₄	<i>B</i> ₅	<i>B</i> ₆	<i>d</i> ₂	<i>1/d</i> ₂	<i>d</i> ₃	<i>D</i> ₁	<i>D</i> ₂	<i>D</i> ₃	<i>D</i> ₄
2	2.121	1.880	2.659	0.7979	1.2533	0	3.267	0	2.606	1.128	0.8865	0.853	0	3.686	0	3.267
3	1.732	1.023	1.954	0.8862	1.1284	0	2.568	0	2.276	1.693	0.5907	0.888	0	4.358	0	2.574
4	1.500	0.729	1.628	0.9213	1.0854	0	2.266	0	2.088	2.059	0.4857	0.880	0	4.698	0	2.282
5	1.342	0.577	1.427	0.9400	1.0638	0	2.089	0	1.964	2.326	0.4299	0.864	0	4.918	0	2.114
6	1.225	0.483	1.287	0.9515	1.0510	0.030	1.970	0.029	1.874	2.534	0.3946	0.848	0	5.078	0	2.004
7	1.134	0.419	1.182	0.9594	1.0423	0.118	1.882	0.113	1.806	2.704	0.3698	0.833	0.204	5.204	0.076	1.924
8	1.061	0.373	1.099	0.9650	1.0363	0.185	1.815	0.179	1.751	2.847	0.3512	0.820	0.388	5.306	0.136	1.864
9	1.000	0.337	1.032	0.9693	1.0317	0.239	1.761	0.232	1.707	2.970	0.3367	0.808	0.547	5.393	0.184	1.816
10	0.949	0.308	0.975	0.9727	1.0281	0.284	1.716	0.276	1.669	3.078	0.3249	0.797	0.687	5.469	0.223	1.777
11	0.905	0.285	0.927	0.9754	1.0252	0.321	1.679	0.313	1.637	3.173	0.3152	0.787	0.811	5.535	0.256	1.744
12	0.866	0.266	0.886	0.9776	1.0229	0.354	1.646	0.346	1.610	3.258	0.3069	0.778	0.922	5.594	0.283	1.717
13	0.832	0.249	0.850	0.9794	1.0210	0.382	1.618	0.374	1.585	3.336	0.2998	0.770	1.025	5.647	0.307	1.693
14	0.802	0.235	0.817	0.9810	1.0194	0.406	1.594	0.399	1.563	3.407	0.2935	0.763	1.118	5.696	0.328	1.672
15	0.775	0.223	0.789	0.9823	1.0180	0.428	1.572	0.421	1.544	3.472	0.2880	0.756	1.203	5.741	0.347	1.653
16	0.750	0.212	0.763	0.9835	1.0168	0.448	1.552	0.440	1.526	3.532	0.2831	0.750	1.282	5.782	0.363	1.637
17	0.728	0.203	0.739	0.9845	1.0157	0.466	1.534	0.458	1.511	3.588	0.2787	0.744	1.356	5.820	0.378	1.622
18	0.707	0.194	0.718	0.9854	1.0148	0.482	1.518	0.475	1.496	3.640	0.2747	0.739	1.424	5.856	0.391	1.608
19	0.688	0.187	0.698	0.9862	1.0140	0.497	1.503	0.490	1.483	3.689	0.2711	0.734	1.487	5.891	0.403	1.597
20	0.671	0.180	0.680	0.9869	1.0133	0.510	1.490	0.504	1.470	3.735	0.2677	0.729	1.549	5.921	0.415	1.585
21	0.655	0.173	0.663	0.9876	1.0126	0.523	1.477	0.516	1.459	3.778	0.2647	0.724	1.605	5.951	0.425	1.575
22	0.640	0.167	0.647	0.9882	1.0119	0.534	1.466	0.528	1.448	3.819	0.2618	0.720	1.659	5.979	0.434	1.566
23	0.626	0.162	0.633	0.9887	1.0114	0.545	1.455	0.539	1.438	3.858	0.2592	0.716	1.710	6.006	0.443	1.557
24	0.612	0.157	0.619	0.9892	1.0109	0.555	1.445	0.549	1.429	3.895	0.2567	0.712	1.759	6.031	0.451	1.548
25	0.600	0.153	0.606	0.9896	1.0105	0.565	1.435	0.559	1.420	3.931	0.2544	0.708	1.806	6.056	0.459	1.541

$$A = \frac{3}{\sqrt{n}} \quad A_3 = \frac{3}{c_4 \sqrt{n}} \quad c_4 = \frac{4(n-1)}{4n-3}$$

$$B_3 = 1 - \frac{3}{c_4 \sqrt{2(n-1)}} \quad B_4 = 1 + \frac{3}{c_4 \sqrt{2(n-1)}}$$

$$B_5 = c_4 - \frac{3}{\sqrt{2(n-1)}} \quad B_6 = c_4 + \frac{3}{\sqrt{2(n-1)}}$$

For *n* > 25.