



PAST PAPERS

Faculty	Department / Section/Division
Not Applicable	Learning Resource Centre

Past Papers

Faculty of Management & social Sciences
Department of Management and Business Studies

BMgt.(Hons) in Banking and Finance

End Semester Examination

(Year 1 – Semester II)

Document Control & Approving Authority	Senior Director – Quality Management & Administration
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Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

Year I Semester II
Repeat Examination
Statistics for Business - BBM 1308

- This paper consists of EIGHT (08) questions on TEN (10) pages.
- Answer FIVE (05) 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: 2022.08.20

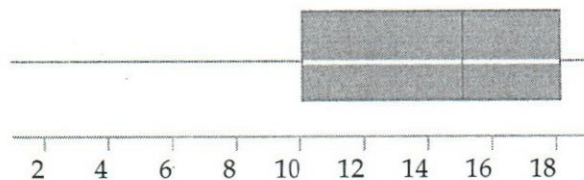
Pass mark: 40%

Time: 03 Hours

Question 01

(a) Underline the most suitable answer/s

1) Consider the boxplot below.



Which of the following statements are true?

- I. The distribution is skewed left.
 - II. The interquartile range is about 8.
 - III. The median is about 10.
- A. I only
 - B. II only
 - C. III only
 - D. I and II
 - E. II and III



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

- 2) Which of the following is a discrete random variable?
- I. The average weight of a randomly selected group of boys.
 - II. The number of students registered at CINEC in 2018
 - III. Space available in the Dean's office in square meters
- A. I only
 - B. II only
 - C. III only
 - D. I and II
 - E. II and III
- 3) A simple random sample consists of four observations: {1, 3, 5, 7}. Based on these sample observations, what is the best estimate of the standard deviation of the population?
- A. 2
 - B. 2.58
 - C. 6
 - D. 6.67
 - E. 3
- 4) A population consists of four observations: {1, 3, 5, 7}. What is the variance?
- A. 2
 - B. 4
 - C. 5
 - D. 6
 - E. 3
- 5) If $E(X) = 2$, what is the value of $E(3X + 2)$
- I. 2



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

- II. 8
 - III. 6
 - IV. 4
 - V. 5
- 6) If $V(X) = 3$, what is the value of $V(3X + 2)$?
- I. 11
 - II. 9
 - III. 29
 - IV. 27
 - V. 20
- 7) In quality control of manufactured items, the most common measure of dispersion is
- I. Quartile Deviation
 - II. Range
 - III. Standard Deviation
 - IV. Inter quartile range
 - V. Variance
- 8) In a Poisson probability distribution
- I. The mean and standard deviation of the distribution are the same (equal)
 - II. The mean and variance of the distribution are the same (equal)
 - III. The probability of success is always greater than 5
 - IV. The number of trials is always less than 5
 - V. It always contains a contingency table



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

9) If X and Y are two events with $P(X) = a$, $P(Y) = b$ and $P(X \cap B) = c$. What is the value of $P[X' \cap (A \cup B)]$

- I. $1-a+b+c$
- II. $a - c$
- III. $b-c$
- IV. $1 + a + b -c$
- V. $a+ b - c$

10) Consider the statements given below.

1. The arithmetic mean of a frequency distribution is a weighted average, the weight being the frequencies of classes.
2. If a distribution has the longer tail towards left, it is said to be a negatively skewed distribution
3. Measures of kurtosis are not relevant for a skewed distribution.

Which of the above statement/s is/are correct?

- (A) 1. Only
- (B) 2. Only
- (C) 3. Only
- (D) 1 and 2 only
- (E) All 1., 2. And 3.

(10 Marks)

(b) Identify the variable type of the variables given below

(05 Marks)

Variable Name	Qualitative	Quantitative	
		Discrete	Continuous
1. Gender			
2. No of members in your family			



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

3. Payment method (Cash/Card/Cheque)			
4. Price of a mobile phone			
5. Number of national schools in western province			
6. Per capita income			
7. Gross monthly salary of a person			
8. Anemic status of a child (Anemic or Non anemic)			
9. Haemoglobin level in blood of a person			
10. Blood sugar level of a person			

(c) Identify the measurement scale of the variables given below

(05 Marks)

Variable Name	Measurement Scale			
	Ordinal	Nominal	Interval	Ratio
1. Gender				
2. No of members in your family				
3. Payment method (Cash/Card/Cheque)				
4. Price of a mobile phone				
5. Number of national schools in western province				
6. Per capita income				
7. Gross monthly salary of a person				



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

8. Anemic status of a child (Anemic or Non anemic)				
9. Haemoglobin level in blood of a person				
10. Blood sugar level of a person				

Question 02

A manufacturing company is considering two methods of checking the quality of production of the batches of items it produces.

METHOD I:

- A random sample of size 10 is taken from a large batch and the batch is accepted if there are no defectives.
- If there is only 1 defective, then another sample of size 10 is taken and the batch is accepted if there are no defectives in the second sample.
- Otherwise the whole batch is rejected.

METHOD II

- A random sample of size 20 is taken from a large batch and the batch is accepted if there is at most ONE defective in the sample.
- Otherwise, the whole batch is rejected.

The factory knows that 1% of items produced are defective and wishes to use the method of checking the quality of production for which the probability of accepting the whole batch is largest.

- (a) Calculate the probability that the batch is accepted according to the METHOD I (10 Marks)
- (b) Calculate the probability that the batch is accepted according to the METHOD II (10 Marks)



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

Question 03

(a) State whether the following could be modelled by a Poisson distribution or not. Justify your answer.

- (i) The number of misprints on a page in the first draft of a book.
- (ii) Number of bacteria in 1m^3 of water.

(04 Marks)

(b) Suppose that faults of in a Cotton Fabric occur at random, with an average of one per 10 square meters. This can be modeled as a Poisson Random variable.

- (i) Identify the parameter/s of Poisson Distribution (02 Marks)
- (ii) Write the Probability density function of the Poisson Distribution (02 Marks)
- (iii) What is the probability that 10 square meter fabric will have no faults (04 Marks)
- (iv) What is the probability that 10 square meter fabric will have at most 01 faults (04 Marks)
- (v) What is the probability that 20 square meter fabric will have at least 2 faults.

(04 Marks)

Question 04

The lifetime of a certain kind of a LED bulb has a normal distribution with mean 500 hours and standard deviation of 50 hours.

Find the probability that,

- (a) The percentage of bulbs with a lifetime of at least 600 hours
- (b) The percentage of bulbs with a lifetime of at most 650 hours
- (c) Find the minimum lifetime of the best 5% of the bulbs
- (d) If the manufacturer of the LED bulbs is willing to claim only 5% warranty claims of his production, calculate the warranty period of the manufacturer. (05 Marks *4 = 20 Marks)



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

Question 05

(a) If $P(X) = \frac{1}{2}$, $P(X \cup Y) = \frac{3}{4}$ and $P(Y') = \frac{5}{8}$

- (i) Find $P(X' \cap Y')$
- (ii) Find $P(X' \cup Y')$
- (iii) Find $P(X' \cap Y)$
- (iv) State whether event X and Y are independent

(3 Marks * 4 = 12 Marks)

(b) The probability that a doctor will diagnose Covid 19 correctly is 0.8. the probability that a Covid 19 patient will die by his treatment after correct diagnosis is 0.3. The probability that a patient with Covid 19 will die after not diagnosing the disease correctly is 0.7. if a Covid 19 patient died, find the probability that the doctor had diagnose the Covid 19 correctly using Baye's theorem. (05 Marks)

(c) Four married couples have bought 08 seats in the same row for a cinema. In how many different ways can they be seated; (03 Marks)

- (i) With no restrictions
- (ii) If each couple is to sit together
- (iii) If all men sit together to the right of all the women

Question 06

(a) A quality control inspector tested nine samples of each of three designs A, B and C of certain bearing for a new electrical winch. The following data are the number of hours it took for each bearing to fail when the winch motor was run continuously at maximum output, with a load on the winch equivalent to 1.9 times the intended capacity.

A:	16	16	53	15	31	17	14	30	20
B:	18	27	23	21	22	26	39	17	28



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

C: 31 16 42 20 18 17 16 15 19

- (i) Calculate mean, median, range and standard deviation for each group (12 Marks)
- (ii) Suggest which design is best. Justify your answer (03 Marks)
- (iii) The mean monthly salaries paid to 100 employees of the above company was USD 50,000. The mean monthly salaries paid to male and female employees were USD 52,000 and USD 42,000 respectively.
 Determine the number of males and females employed by the company. (05 Marks)

Question 07

- (a) Explain with help of examples the difference between Primary and Secondary Data Sources. (05 Marks)
- (b) Charts are more effective in attracting attention than other methods of presenting data. Do you agree or disagree? Give reasons for your answer. (05 Marks)
- (c) Discuss the relationship between Mean, Mode and Median using three distributional shapes. (05 Marks)
- (d) Explain the advantages of Standard Deviation as a measure of variation over range. (05 Marks)

Question 08

- (a) If A and B are two events. If $A \subseteq B$ Prove that $P(A) \leq P(B)$ (04 Marks)
- (b) In an experiment to study the relationship of hypertension and smoking habits, the following data collected for 180 individuals:

	Non Smokers	Moderate Smokers	Heavy Smokers
Hypertension	21	36	30
No hypertension	48	26	19



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

If one of these individuals is selected at random, find the probability that the person is

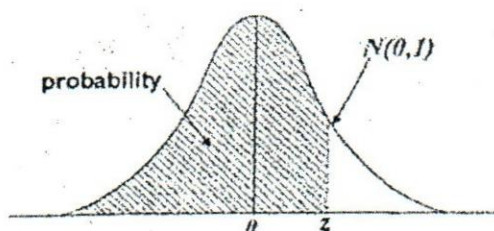
- (i) experiencing hypertension, given that the person is a heavy smoker. (03 Marks)
 - (ii) a nonsmoker, given that the person is experiencing hypertension. (03 Marks)
- (c) In each of the following situations, explain what graphical display you would use to present the information most appropriately. Do a sketch of the display highlighting the important aspects that should be considered in those graphs.
- (i) Student Coordinator of the Faculty of Management at CINEC Campus should present the number of students recruited for the Logistics Degree programme for the period of 2012 to 2022. (02 Marks)
 - (ii) Student Coordinator of the Faculty of Management at CINEC Campus needs to present, the number of male and female students eligible for the undergraduate programme from each of the streams: Mathematics, Bio-Sciences, Commerce and Arts. (04 Marks)
 - (iii) Course Coordinator of the Faculty of Management at CINEC Campus needs to compare marks obtained by first year undergraduate students for Mathematics and Business English modules. (04 Marks)

-----END OF THE EXAMINATION PAPER-----



Faculty of Management and Social Sciences
 Department of Logistics & Transport
 BMgt Hons in Supply Chain Management
 Course CODE: COM552

The Standardised Normal Distribution Table



The distribution tabulated is that of the normal distribution with mean zero and standard deviation 1. For each value of Z , the standardized normal deviate, (the proportion P , of the distribution less than Z) is given. For a normal distribution with mean μ and variance σ^2 the proportion of the distribution less than some particular value X is obtained by calculating $Z = (X - \mu) / \sigma$ and reading the proportion corresponding to this value of Z .

Z	P	Z	P	Z	P
-4.00	0.00003	-1.00	0.1587	1.05	0.8531
-3.50	0.00023	-0.95	0.1711	1.10	0.8643
-3.00	0.0014	-0.90	0.1841	1.15	0.8749
-2.95	0.0016	-0.85	0.1977	1.20	0.8849
-2.90	0.0019	-0.80	0.2119	1.25	0.8944
-2.85	0.0022	-0.75	0.2266	1.30	0.9032
-2.80	0.0026	-0.70	0.2420	1.35	0.9115
-2.75	0.0030	-0.65	0.2578	1.40	0.9192
-2.70	0.0035	-0.60	0.2743	1.45	0.9265
-2.65	0.0040	-0.55	0.2912	1.50	0.9332
-2.60	0.0047	-0.50	0.3085	1.55	0.9394
-2.55	0.0054	-0.45	0.3264	1.60	0.9452
-2.50	0.0062	-0.40	0.3446	1.65	0.9505
-2.45	0.0071	-0.35	0.3632	1.70	0.9554
-2.40	0.0082	-0.30	0.3821	1.75	0.9599
-2.35	0.0094	-0.25	0.4013	1.80	0.9641
-2.30	0.0107	-0.20	0.4207	1.85	0.9678
-2.25	0.0122	-0.15	0.4404	1.90	0.9713
-2.20	0.0139	-0.10	0.4602	1.95	0.9744
-2.15	0.0158	-0.05	0.4801	2.00	0.9772
-2.10	0.0179	0.00	0.5000	2.05	0.9798
-2.05	0.0202	0.05	0.5199	2.10	0.9821
-2.00	0.0228	0.10	0.5398	2.15	0.9842
-1.95	0.0256	0.15	0.5596	2.20	0.9861
-1.90	0.0287	0.20	0.5793	2.25	0.9878
-1.85	0.0322	0.25	0.5987	2.30	0.9893
-1.80	0.0359	0.30	0.6179	2.35	0.9906
-1.75	0.0401	0.35	0.6368	2.40	0.9918
-1.70	0.0446	0.40	0.6554	2.45	0.9929
-1.65	0.0495	0.45	0.6736	2.50	0.9938
-1.60	0.0548	0.50	0.6915	2.55	0.9946
-1.55	0.0606	0.55	0.7088	2.60	0.9953
-1.50	0.0668	0.60	0.7257	2.65	0.9960
-1.45	0.0735	0.65	0.7422	2.70	0.9965
-1.40	0.0808	0.70	0.7580	2.75	0.9970
-1.35	0.0885	0.75	0.7734	2.80	0.9974
-1.30	0.0968	0.80	0.7881	2.85	0.9978
-1.25	0.1056	0.85	0.8023	2.90	0.9981
-1.20	0.1151	0.90	0.8159	2.95	0.9984
-1.15	0.1251	0.95	0.8289	3.00	0.9986
-1.10	0.1357	1.00	0.8413	3.50	0.99977
-1.05	0.1469			4.00	0.99997



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

Year I Semester II
Repeat Examination
ENGLISH FOR BUSINESS II – BBM 1307

- This paper consists of FIVE (05) questions on SEVENTEEN (17) 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: 2022.08.19

Pass mark: 40%

Time: 03 Hours

Question 01

Read the following article about the research methods and answer the given questions.

The Research Methods

Research is a very general term for an activity that involves finding out, in a more or less systematic way, things you did not know. A more academic interpretation is that research involves finding out about things that no-one else knew either. It is about advancing the frontiers of knowledge.

Research methods are the techniques you use to do research. They represent the tools of the trade, and provide you with ways to collect, sort and analyze information so that you can come to some



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

conclusions. If you use the right sort of methods for your particular type of research, then you should be able to convince other people that your conclusions have some validity, and that the new knowledge you have created is soundly based.

It would be really boring to learn about all these tools without being able to try them out like reading about how to use a plane, chisel, drill etc. and never using them to make something out of a piece of wood. Therefore, courses in research methods are commonly linked to assignments that require these methods to be applied - an actual research project that is described in a dissertation or thesis, or a research report. In the workplace, it is often the other way round. When there is a perception that more information and understanding is needed to advance the work or process of work, then ways are sought how research can be carried out to meet this need.

Being a researcher is as much about doing a practical job as being academically competent. Identifying a subject to research, finding and collecting information and analyzing it, presents you with a range of practical problems that need to be solved. Over hundreds of years, techniques, or methods, have been evolved to provide solutions to these problems. The practice of research is closely bound up with the theoretical developments that were promoted by philosophers and key thinkers and practitioners in the sciences, right back to the ancient Greeks. The debate about knowledge and how we acquire it is rooted in philosophical thought.

The whole point of doing a research project is to identify a particular question or problem, to collect information and to present some answers or solutions. In order to convince the reader that you have collected information relevant to the question or problem and that you have based your answers and conclusions on the correct analysis of this information you will need to use some logical argument.



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

You might want to defend or challenge a particular point of view or propose a new or improved one. You will have to play the part of a detective making a case in court. The detective will set out to solve the problem (who committed the crime and how?) by analyzing the situation (the scene and events of the crime, the possible suspects), collecting and reviewing the evidence, then making a case for his/ her conclusions about 'who-done-it' and how. The jury will have to decide whether the argument is convincing and that the evidence is sufficiently strong. In the case of a research project, you will be setting the problem and laying out your case, and the reader of your report, dissertation or thesis will be your jury.

[For Summarizing] There are two basic stages to an argument: the premises, which are statements in the form of propositions or assertions which form the basis of the argument (this can be seen as the evidence) and the conclusion, which is a proposition that expresses the inference drawn by logical steps from the original premises. Arguments are based on logical reasoning of which there are two basic types: inductive reasoning, which entails moving from particular repeated observations to a general conclusion, and deductive reasoning, which entails going from a general principal (called a premise) to a conclusion about a particular case. The hypothetico-deductive method or scientific method is a further development of logical reasoning based on the principle that we can never be completely sure of any premises or conclusions that we make, but we can be more confident about some than others. The more a premise or a conclusion has been tested and supported by repeated investigations, the more likely it is to be true. Also, conclusions can be refined if they are only seen to be true in particular situations. All scientific facts, such as the theory of gravity, are based on this approach. (Taken from Research Methods The Basics by Nicholas Walliman)

Write whether the following statements are true or false.

(10 Marks)



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 BMgt (Hons) in Banking and Finance
 Course CODE: BBM 561

- (a) The primary aim of research is to find new knowledge.
- (b) Reliable research methods are necessary to prove that the conclusions a researcher have reached are valid.
- (c) Even if the research tools are not used in practice, they have much value of their own.
- (d) Theoretical developments by philosophers haven't contributed to the progress of research methods.
- (e) The readers of research reports are like jury in criminal cases in courts.

Find similar words from the passage for the following words.

(05 Marks)

- (f) The limits of a particular subject -
- (g) Make people accept an idea -
- (h) A writing completed as part of a degree -
- (i) Decisions logically reached -
- (j) The facts used to prove something -



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

Write a summary of the last paragraph in the above article using less than 50 words. Do not exceed the word limit. (05 Marks)

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Question 02

(i). a. Write the seven C's of business letter writing.

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Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

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b. Write two examples for a strong opening and close of business letters.

.....
.....
.....
.....

c. Substitute better words for the following stuffy and pompous phrases.

- On account of -
- In the near future -
- At the present time -
- With the possible exception of -

d. Write a situation when you should write a letter of apology to clients.

.....
.....



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

e. Are the following sentences true or false.

- Business letters are written to inform readers of specific information.
.....
- Proofread is not required for the finishing touch since you won't be judged from the errors.

(10 Marks)

(ii). Imagine you are a merchandising executive in a textile manufacturing company.

You are facing a number of difficulties like delivering wrong color materials, inaccurate amounts and late delivery. Write a letter of complaint to the supplier including the following.

- the recent mistakes made by the supplier
- the problems you had to face
- the future steps the supplier should take
- non-compliance will lead to supplier discontinuation

Use about 100 words.

(10 Marks)

.....

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Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

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Question 03

(i). a. In a cv, how do you call the description giving useful information?

.....

b. For which type of letter, are the following phrases most suitable.

- Look forward to a great business venture with you.
- If you could send the following information.

c. Write another term for curriculum vitae?

.....



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

d. When do you need a letter of credit?

.....
.....

e. Rewrite correcting the following phrases.

Regret some inconvenience -

Yours cooperation is highly appreciated -

(10 Marks)

(ii). You saw the following advertisement in the newspaper. Write a suitable covering letter to be sent along with the cv.(Do not write a cv).

(10 Marks)



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 BMgt (Hons) in Banking and Finance
 Course CODE: BBM 561

[Use a separate sheet]

Vacancy - Logistics Assistant

A public quoted FMCG Company established in 1960 and still winning the trust and hearts of our clients.

We manufacture and market some of the best and trusted brands in the country with one of the largest distribution networks in Sri Lanka offering a range of products in skin care, baby care and household products.

Due to the expansion of business activities the above vacancies for Logistics Assistant exist in our Malabe office at Millennium Drive.

Qualifications and experience

- Fully or partly qualified in the relevant field/ a degree in logistics
- Experience in logistics company environment handling transportation, value added and logistics services during internships would be an added advantage
- Should be IT literate

The successful candidates will be awarded with an excellent remuneration package on par with the industry standards.

Please write to: HR Manager
 Eurosol Group, Millennium Drive
 Malabe

Question 04

(a) Explain critical and evaluative reading.

(05 Marks)

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Faculty of Management and Social Sciences
 Department of Management & Business Studies
 BMgt (Hons) in Banking and Finance
 Course CODE: BBM 561

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(b) Read the following extracts and answer the questions given. (10 Marks)

(i). Interest will be charged if full payment is not made on the due date or if part of minimum payment is made before, on or after due date or full payment is made after the due date.

A customer's minimum payment Rs.24, 578.00 is due on 25th January 2019, he deposits Rs.10 000.00 on 19th January, Rs.14 500.00 on 25th January and Rs.15 000.00 on 26th January. Will he be charged interest?

(ii). An estimated 90 percent of all marine life is concentrated about continental shelves which represent only 10 percent of the total ocean area.

What is the percentage of marine life beyond continental shelves?



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 BMgt (Hons) in Banking and Finance
 Course CODE: BBM 561

- (iii). The World Conservation Strategy (1980) argued that had stocks not been damaged by overfishing, world yields in 1980 would have been 15 to 20 million tonnes higher.

If there was no overfishing and the world yields in 1979 were 7985 tonnes, what would have been the yields in 1980?

- (iv). As I need an iron on a daily basis and it was not clear how long a repair would take, the option for repair was unsatisfactory.

Why was the option of repair unsatisfactory? Because

.....

- (v). At the beginning of the period the proportion of expenditure on food was more than three times as high as that in all the other categories representing more than thirty percent of household expenditure.

According to above description which one of the following categories - housing, clothing, transport, fuel and food- represented more than thirty percent of household expenditure?

- (c) Read the following short passage and underline the two sentences that are correct according to the paragraph. (05 Marks)

To be successful, a company should have a portfolio of products with different growth rates and different market shares. The portfolio composition is a function of the balance between



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 BMgt (Hons) in Banking and Finance
 Course CODE: BBM 561

cash flows. High growth products require cash inputs to grow. Low growth products should generate excess cash. Both kinds are needed simultaneously.

Underline the two sentences which are correct.

- (i). A company with a wider portfolio of products is most likely to fail in the long run.
- (ii). A range of products with different growth rates and different market shares is a sound marketing strategy.
- (iii). The products that should generate surplus cash is high growth products.
- (iv). Provided there is more and more investment, the high growth products will steadily flourish.

Question 05

- (a) Read the following answers given by an interviewee at an interview and form the interviewer's questions. Look at the example. (10 Marks)

Example: Interviewer : *What were your duties there?*

Interviewee :Well, basically I did everything from taking calls to responding to emails and maintaining the website.



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 Department of Management & Business Studies
 BMgt (Hons) in Banking and Finance
 Course CODE: BBM 561

Interviewer : (i)

Interviewee : I'm Rohan from Kandy. I had my education at Kingswood and graduated from University of Peradeniya. I worked as a merchandiser for a short time.

Interviewer : (ii)..... ?

Interviewee : As a merchandiser, I collaborated with suppliers, manufacturers and the stores to ensure proper execution of plans.

Interviewer : (iii)..... ?

Interviewee : I came to know about your company when I was surfing the Net looking for merchandising companies.

Interviewer : (iv)..... ?

Interviewee : My goal in the future is to specialize in merchandising and retail marketing.

Interviewer : (v)..... ?

Interviewee : I decided to join your company because this one of the leading companies in the country and there are better prospects for the employees.



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

(b). Write five sentences to bring out the meaning of five of the following terms. Do not use pronouns in sentences.

(10 Marks)

outgoing welfare scientific variable classification
resources objective impact career personnel

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BMgt (Hons) in Banking and Finance
Course CODE: BBM 561

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 Department of Management & Business Studies
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 Course CODE: BBM 561

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

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Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561



Year I Semester II
REPEAT EXAMINATION
Microeconomics -BBM 1306

- This paper consists of EIGHT(08) questions on FOUR (04) pages.
- Answer FIVE(05) questions including Question No. 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: 2022.08.18

Pass mark: 40%

Time: 03 Hours

Question 01 (Compulsory)

Give short answers

- (a) Distinguish between positive and normative economics.
- (b) Distinguish between Microeconomics and Macroeconomics.
- (c) State any two uses of the study of Microeconomics.
- (d) State the Law of Demand.
- (e) What is opportunity cost?
- (f) Distinguish between change in demand and change in quantity demand.
- (g) Why are economic models so important in economics?
- (h) How to calculate marginal production.
- (i) State two uses of calculating elasticity of demand.
- (j) Distinguish between cardinal utility and ordinal utility.

(20 Marks)

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 Department of Management and Business Studies
 BBM(Hons) in Banking and Finance
 Course CODE: BBM 561

Question 02

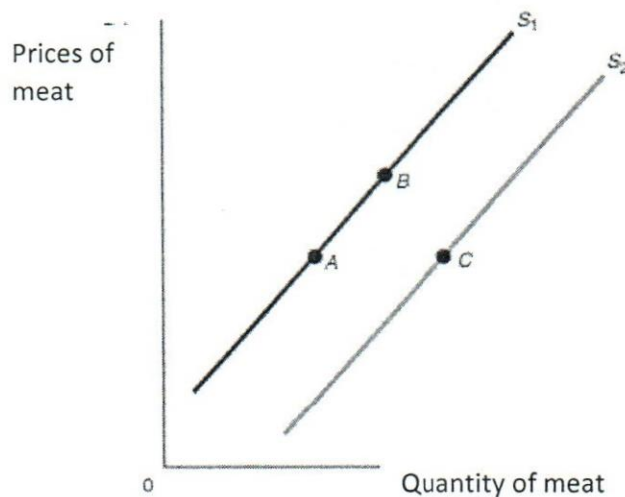
Explain why all combinations of goods shown on a production possibilities curve display production efficiency but only one combination displays allocative efficiency.
 (Use appropriate charts to explain your answer) (20 Marks)

Question 03

(a) State the Law of Supply and two determinants of supply. (04 Marks)

(b) Suppose that the curves below represent two supply curves for Meat.

- i. What would cause a movement from point A to point B on S₁?
 - ii. Name two variables that would cause a movement from point A to point C
- (04 Marks)



(c) The demand equation can be written as $Q_d = a - bP$, explain the components (*a* and *b*) of the given demand equation " $Q_d = 800 - 60P$ " (04 Marks)

(d) Suppose there has been an outbreak of chicken flu in a particular country.

Use a diagram to show how this is likely to affect the demand for chicken in that country. Explain your answer (04 Marks)

Faculty of Management and Social Sciences
Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561

- (e) Medical trials have indicated that drinking Hibiscus tea from Yunan in China can reduce blood pressure and cholesterol in Europeans. Use a diagram to show how this might affect the demand for this tea. Explain your answer. (04 Marks)

Question 04

1. Suppose that you have the following demand and supply curve for a product.

$$Q_d = 240 - 12P$$

$$Q_s = 40 + 8P$$

- a) Prepare the demand and supply schedules (05 Marks)
b) Using given equations calculate equilibrium price and equilibrium quantity in the market (05 Marks)
c) Explain the importance of income elasticity for a business (10 Marks)

Question 05

Consider the market for rice.

- i) Is the demand for rice relatively elastic or relatively inelastic with respect to the price? Explain why. (05 Marks)
ii) Is the demand for rice relatively elastic or relatively inelastic with respect to income? Explain why. (05 Marks)
iii) Is the supply of rice relatively elastic or relatively inelastic with respect to the price? Explain why. (05 Marks)
iv) Over time, the demand for rice has shifted to the right. Why has this occurred? Over time the supply of rice has shifted to the right. Why has this happened? (05 Marks)

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Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561

Question 06

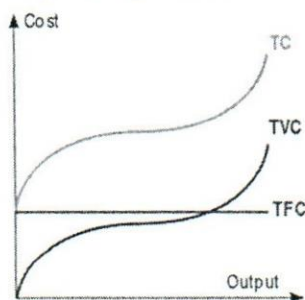
Discuss whether the price mechanism is the best system for the allocation of the scarce resources in the Sri Lankan economy. (20 Marks)

Question 07

- (a) Law of diminishing returns states that the marginal product gradually decreases, while total output increases. Do you accept this statement? Justify your answer. (10 Marks)
- (b) "Downward sloping marginal utility curve is transformed into the downward sloping demand curve" Do you agree with this statement? Explain (10 Marks)

Question 08

- (a) All costs are variable costs in the long run. Explain. (06 Marks)
- (b) In the graph given below, what is the difference between TC and TVC? (02 Marks)



- (c) Explain the following cost concepts
- i. Average fixed cost (AFC)
 - ii. Average variable cost (AVC)
 - iii. Average total cost (ATC) (06 Marks)
- (c) Give reasons for the U- shape of long run average cost curve. (06 Marks)

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



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt(Hons) in Banking and Finance
Course CODE: BBM 561



Year I Semester II
End Semester Examination
IT for Business II – BBM 1309

- This paper consists of EIGHT (08) questions on FOUR (04) pages.
- Answer FIVE (05) 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: 2022.08.15

Pass mark: 40%

Time: 03 Hours

Question 01 (Compulsory)

- List down two technologies used in Information and Communication Technology (ICT). (02 Marks)
- List down two duties of utility programs? (02 Marks)
- List down two activities done by hackers. (02 Marks)
- What is SSID (service set identifiers)? (02 Marks)
- Give two examples for software suites. (02 Marks)
- List down two types of form factors of motherboard. (02 Marks)
- List down two access control methods. (02 Marks)
- What is a composite key in database management systems? Give an example. (02 Marks)
- Convert BCA_{16} to Octal. Show your calculations. (02 Marks)
- List down two devices which can do both input and output operations. (02 Marks)



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt(Hons) in Banking and Finance
Course CODE: BBM 561

Question 02

- a) Compare and contrast application software and system software. (04 Marks)
- b) What are the major two types of user interfaces? (02 Marks)
- c) List down two combinations of OSs, computers, and users. (02 Marks)
- d) Select any trend in ICT and discuss about its features, advantages, limitations and applications in banking and finance sector. (12 Marks)

Question 03

- a) Discuss two (2) strategies for using software/software packages for a company which has unique business requirements. (04 Marks)
- b) Briefly explain three (3) tips for minimizing software bugs. (06 Marks)
- c) "Organizations should not develop proprietary application software unless doing so will meet a compelling business need that can provide a competitive advantage." Do you agree with the above statement? Justify your answer. (10 Marks)

Question 04

- a) Briefly Explain two characteristics of binary number system using in computers ? (04 Marks)
- b) Do following number system conversions while clearly showing your calculations/steps. (16 Marks)



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt(Hons) in Banking and Finance
Course CODE: BBM 561

- I. Convert 254 to binary.
- II. Convert $6ACB_{16}$ to octal.
- III. Convert 125_8 to decimal.
- IV. Convert 10001111010_2 to octal.
- V. Convert 1001101101011_2 to hexadecimal.
- VI. Convert 100_8 to binary
- VII. Convert 11.101_2 to decimal.
- VIII. Convert 2.15 to binary

Question 05

- a) Briefly explain fetch-decode-execute cycle while sketching a diagram. (06 Marks)
- b) Briefly explain about Microprocessors and Moore's law (06 Marks)
- c) Discuss the relationship among CPU, RAM and Hard Disk. (08 Marks)

Question 06

- a) Briefly explain about three types of Malicious Software. (06 Marks)
- b) Briefly explain about two types of Wireless security challenges. (04 Marks)
- c) Give a brief introduction about two technologies/tools for safeguarding information resources in banking and finance sector. (04 Marks)
- d) Discuss the risk assessment procedure using an example. (06 Marks)



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt(Hons) in Banking and Finance
Course CODE: BBM 561

Question 07

- a) Explain three advantages of Database Management System. (06 Marks)
- b) Briefly explain three problems with tradition file environment. (06 Marks)
- c) Design a database for a CINEC Library while identifying the fields, grouping the fields into tables, identifying primary keys and foreign keys. You can make any assumption when designing the database. If you make any assumptions, clearly mention them. (08 Marks)

Question 08

Write Short notes on following

(05* 4 =20 Marks)

- a) Von Neumann Architecture and bottleneck
- b) Electronic period vs Premechanical period
- c) Advantages of ICT for banking and finance sector
- d) Virtual currencies and block chain

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

Library

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Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561



Year I Semester II
End Semester Examination
IT for Business II – BBM 1309

- This paper consists of EIGHT (08) questions on SIX (06) pages.
- Answer FIVE (05) 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: 2022.03.09

Pass mark: 40%

Time: 03 Hours

Question 01 (Compulsory)

- a) List down two technologies used in Information and Communication Technology (ICT).
(02 Marks)
- b) List down two features of virtual currency?
(02 Marks)
- c) What are the two types of user interfaces? What is their major difference?
(02 Marks)
- d) What are the two types of application software? What is their major difference?
(02 Marks)
- e) Write down one advantage and one disadvantage of Software as a Service (SaaS)
(02 Marks)



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

- f) Write down two reasons for internet vulnerability. (02 Marks)
- g) List down two wireless security challenges. (02 Marks)
- h) What is a composite key in database management systems? Give an example. (02 Marks)
- i) Convert DCA_{16} to Octal. Show your calculations. (02 Marks)
- j) List down two devices which can do both input and output operations. (02 Marks)

Question 02

- a) What is ICT? (02 Marks)
- b) Briefly explain evolution of ICT during four major periods. (10 Marks)
- c) Select any trend in ICT and discuss about its features, advantages, limitations and applications in banking and finance sector. (08 Marks)

Question 03

- a) Suggest two (2) strategies to use software/software packages for a company which has unique business requirements. (04 Marks)
- b) Briefly explain two tips for minimizing software bugs. (04 Marks)



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

- c) How does Enterprise Application Software support banking and finance sector? Discuss using an appropriate example. (06 Marks)
- d) "Organizations should not develop proprietary application software unless doing so will meet a compelling business need that can provide a competitive advantage." Do you agree with the above statement? Justify your answer. (06 Marks)

Question 04

- a) Briefly Explain why do computers use binary number system? (04 Marks)
- b) Do following number system conversions while clearly showing your calculations/steps. (16 Marks)
- I. Convert 137_{10} to binary.
 - II. Convert $7ACE_{16}$ to octal.
 - III. Convert 254_8 to decimal.
 - IV. Convert 100010001010_2 to octal.
 - V. Convert 1100110110101011_2 to hexadecimal.
 - VI. Convert 254_8 to binary
 - VII. Convert 10.1011_2 to decimal.
 - VIII. Convert 3.146_{10} to binary

Question 05

- a) Briefly explain fetch-decode-execute cycle while sketching a diagram. (06 Marks)



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

- b) "From the moment you turn your computer on until the time you shut it down, your CPU is constantly using memory." Are you agree with this statement? Justify your answer through a scenario. (06 Marks)
- c) Select any two of the following and write short notes (08 Marks)
- The relationship among CPU, RAM and Hard Disk
 - Motherboard
 - Chipset

Question 06

- a) Briefly explain the risk assessment procedure. (04 Marks)
- b) Give a brief introduction about three technologies/tools for safeguarding information resources in banking and finance sector. (06 Marks)
- c) "Sri Lankan laws regarding computer crimes are neither the sufficient nor sufficiently enforced to be implemented." Do you agree with the above statement? Justify your answer while providing a suitable example. (10 Marks)

Question 07

- a) What is a database? Explain by using an example. (04 Marks)



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

b) Briefly explain three (03) problems with tradition file environment. (06 Marks)

c) The Department for Trade and Industry is introducing a compulsory Health Awareness Programme for all companies. Your company requires a database to store details of the various conferences attended by their employees to prepare for the Health Awareness Programme.

Each employee is uniquely identified by their employee number, and has a name. Each employee works within one company department. The department number uniquely identifies each department and the department has a telephone number. A conference is uniquely identified by the Conference ID, and has a conference title. A conference lasts for a fixed number of days and the conference fee must be recorded.

From the above scenario, design a database while identifying the fields, grouping the fields into tables, identifying primary keys and foreign keys. You can make any assumption when designing the database. If you make any assumptions, clearly mention them. (10 Marks)

Question 08

Write Short notes on following

(05* 4 =20 Marks)

- Von Neumann Architecture and bottleneck
- The relationship among CPU and Memory
- Functions of Operating System
- Utility Programs

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

Library

Faculty of Management and Social Sciences
Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561



Year I Semester II
SEMESTER END EXAMINATION
Microeconomics -BBM 1306

- This paper consists of EIGHT(08) questions on SEVEN (07) pages.
- Answer FIVE(05) questions including Question No. 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: 2022.03.13

Pass mark: 40%

Time: 03 Hours

Question 01 (Compulsory)

- a) According to Marshall, Economics is a science of Material welfare of man. Critically examine this. How it is different from Robbin's definition? (05 Marks)
- b) Are economic models detailed or simplified versions of reality? Could economists build perfect economic models? Why? (03 Marks)
- c) Using a production possibility curve, explain. (04 Marks).
- Opportunity cost concept
 - Problem of scarcity
 - Economic recession
 - Economic growth
- d) State whether the following statements are true or false, and illustrate your answer using appropriate diagrams and/or equations/or examples.
- An indifference curve shows the different combinations of two goods with which a consumer can get a same level of satisfaction. (03 Marks)

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Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561

- ii. Relationship between quantity of demand and consumers' money income must always be positive. (03 Marks)
- e) Classify the following topics as relating to microeconomics or macroeconomics.
 - i. Determination of price of wheat.
 - ii. The effect of government policies on unemployment rate of the country.
 - iii. How is national income determined?

- iv. A firm's decision about how many workers to hire (02 Marks)

Question 02

- a) Microeconomics is a microscopic study of the economy. Explain. (05 Marks)
- b) Distinguish between Microeconomics and Macroeconomics. Show how the two are interdependent. (05 Marks)
- c) Explain why all combinations of goods shown on a production possibilities curve display production efficiency but only one combination displays allocative efficiency. Use appropriate graphs. (05 Marks)
- d) What is opportunity cost? why does it increase when more of a commodity is produced? (05 Marks)

Question 03

- a) Suppose a market consists of three consumers, A, B, and C whose inverse demand functions given below.
 - (A): $P = 35 - 0.5Q_A$
 - (B) : $P = 50 - 0.25Q_B$
 - (C) : $P = 40 - 2.00 Q_C$

Faculty of Management and Social Sciences
Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561

- I. Find out the market demand function for the commodity (05 Marks)
- II. If the market supply function is given below by $Q_s = 40 + 3.5P$, determine the equilibrium price and quantity. (04 Marks)
- b) A survey shows that most people prefer Bens car to Wagon R. If this is true, why do more people buy Wagon R than Bens. (02 Marks)
- c) Given the following market demand function for the commodity X

$$Q_{dx} = f(P_x, P_y, P_z, I, T, A)$$

Where,

P_x = Price of the commodity X

P_y = Price of a substitute commodity Y

P_z = Price of a complementary product Z

I = Level of per capita income

T = Taste and consumer preference

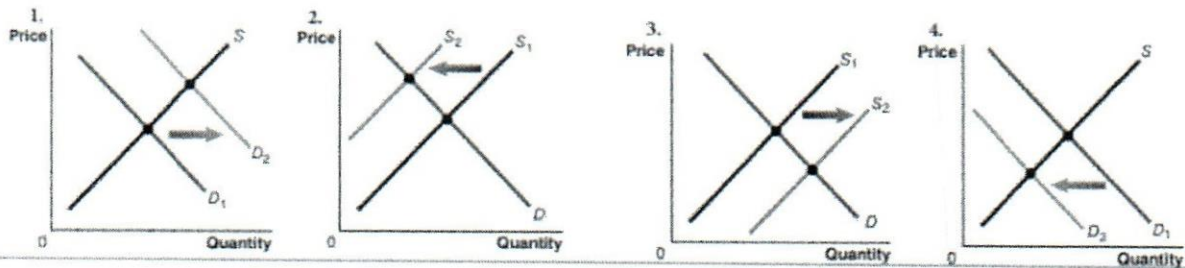
A = Advertising expenditure by a firm producing X

How will the market demand for commodity X will change? (05 Marks)

- i. If price of the commodity X rises,
 - ii. If price of the substitute good Y rises,
 - iii. If price of complementary product Z falls,
 - iv. If per capita income (I) rises
 - v. If advertising expenditure increases by the firm
- d) Following are four graphs and four market scenarios, each of which would cause either a movement along the supply curve for Pepsi or a shift of the supply curve. Match each scenario with the appropriate graph. (04 Marks)
- i. A decrease in the supply of Coke
 - ii. A drop in the average household income in the United States from \$52,000 to \$50,000
 - iii. An improvement in soft drink bottling technology

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 Department of Management and Business Studies
 BBM(Hons) in Banking and Finance
 Course CODE: BBM 561

iv. An increase in the prices of sugar and high-fructose corn syrup



Question 04

Demand and Supply for Gas during a week is given below.

Table 4:1 - Demand and Supply for Gas

Gas Price 1Kg	Demand per week (Kg)	Supply per week (Kg)
80	500	100
100	400	200

- Derive the Demand and Supply Equations (04 Marks)
- Find the equilibrium price and quantity (02 Marks)
- Find out the consumer and producer surplus (04 Marks)
- If the government limit the prices of Gas (1Kg) to Rs.80. as the maximum Gas price in the market. Calculate the new consumer surplus and producer surplus. (08 Marks)
- Calculate the dead weight loss or the loss of total welfare with the new price limit. (02 Marks)

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Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561

Question 05

- a) If the price of coffee rises from Rs. 4.50 per hundred grams to Rs. 5 per hundred grams and as a result the consumer's demand of tea increases from 60 hundred grams to 70 hundred grams, then calculate the cross elasticity of demand of tea for coffee. (03 Marks)
-
- b) Consider the market for rice.
- Is the demand for rice relatively elastic or relatively inelastic with respect to the price? Explain why. (03 Marks)
 - Is the demand for rice relatively elastic or relatively inelastic with respect to income? Explain why. (03 Marks)
 - Is the supply of rice relatively elastic or relatively inelastic with respect to the price? Explain why. (03 Marks)
- c) What will happen to sales of a product whose income elasticity of demand, $YED = +0.6$? (03 Marks)
- d) How could you use income elasticity of demand (YED) values to advise a company on how to produce a mix of goods and services that would reduce the risk often associated with only producing a very narrow range of products? (05 Marks)

Question 06

- a) On what grounds Marshall's cardinal utility analysis has been criticized? (04 Marks)
- b) You are given the following marginal utilities of goods X and Y obtained by a consumer. Given that price of X=Rs. 5, price of Y=Rs.2 and income=Rs. 22

Faculty of Management and Social Sciences
Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561

Table 6:1 - Marginal Utilities of Goods "X" and "Y"

Number of units consumed of a commodity	MU _x (Utils)	MU _y (Utils)
1	30	20
2	25	18
3	20	16
4	15	14
5	10	12
6	5	10
7	1	8

Find out the optimal combination of goods. (06 Marks)

- c) Derive the demand curve for a commodity from Marshall's cardinal utility analysis. Explain in terms of cardinal utility theory why demand curve for a commodity slope downward. (06 Marks)
- d) Explain the law of diminishing marginal utility? Use appropriate graphs for your answer. (04 Marks)

Question 07

- a) Explain why consumer's indifference curves,
- i. have negative slope
 - ii. do not intersect
 - iii. are convex to the origin
- (06 Marks)

- b) Given below is the short run total cost function
 $TC = 200 + 10Q - 5Q^2 + 2Q^3$

Faculty of Management and Social Sciences
Department of Management and Business Studies
BBM(Hons) in Banking and Finance
Course CODE: BBM 561

Determine

- i. The total fixed cost
- ii. Total variable cost function
- iii. Average variable cost function
- iv. Marginal cost function
- v. Calculate total cost, average total cost, average variable cost and marginal cost when the firm produces 10 units of output. (12 Marks)

- c) What would be the shape of the long run average cost curve when constant returns to scale occur? (02 Marks)

Question 08

Select **any four** and write short notes. (05 Marks *4=20 Marks)

- a) Positive and Normative economics
- b) Exceptions to the law of demand.
- c) Change in supply vs. Change in Quantity supplied
- d) Determinants of price elasticity of supply
- e) Principle of diminishing marginal rate of substitution (MRS)

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



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561



Year I Semester II
End Semester Examination
Cost and Management Accounting – BBM 1310

- This paper consists of EIGHT (08) questions on THIRTEEN (13) pages.
- Answer FIVE (05) questions including question 01.
- 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.
- Formulae sheet and three statistical tables are attached.

Date: 2022.03.11

Pass mark: 40%

Time: 03 Hours

Question 01 (Compulsory)

Write the correct answer in your answer booklet with the number assigned to the question.

1.1 Which one of the following statements is not correct with reference to cost accounting?

- (1) It provides information for decision making.
- (2) It ascertains the cost of a unit.
- (3) It uses financial accounting information.
- (4) It prepares the reports according to legal requirements.



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 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

1.2 Which one of the following is correct regarding the Activity Based Costing (ABC) method?

- (1) It is a method of charging overheads to cost units on the basis of activities performed for the cost unit.
- (2) It is used to calculate the departmental overhead absorption rate.
- (3) It is a method in which materials are obtained at the time they are required.
- (4) It considers only the variable overheads.

1.3 The firm's direct-labor rate variance was \$4,800 unfavorable. Actual labor was 24,000 direct labor hours, at a cost of \$168,000 for 25,000 units of finished product requiring 1 hour of direct labor each, at standard. What is the standard rate per direct labor hour?

- (1) Rs.7.20/-
- (2) Rs.6.80/-
- (3) Rs.7.00/-
- (4) None of the above

1.4 The following information was extracted from a manufacturing company:

	Actual	Budgeted
Production overhead cost (Rs.)	201,500	201,500
Direct expenses (Rs.)	275,000	250,000
Machine hours	15,500	15,000

Based on the above information, overhead absorption rate per machine hour is:



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

- (1) Rs.12/-
- (2) Rs.13/-
- (3) Rs.11/-
- (4) Rs.14/-

1.5 An example of a semi-variable cost would be?

- (1) the costs of raw material to be used for production.
- (2) the depreciation of intangible fixed assets.
- (3) the salaries of departmental supervisors
- (4) the wages paid to operatives on basic pay topped-up by a production bonus scheme

1.6 The quarterly production and overhead costs for the year are shown below. Identify the variable overhead cost per unit.

Quarter	Production Units	Overheads (RS)
1	4,900	66,000
2	5,200	69,000
3	5,400	70,000
4	4,000	60,000

- (1) Rs. 7.14
- (2) Rs. 6.00
- (3) Rs. 15.00
- (4) Rs. 13.76



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

Based on the following information given to you regarding product X, answer question (1.7) and (1.8)

Selling price per unit = Rs. 60

Contribution per unit = Rs. 25

1.7. Contribution to sales ratio of product X is,

- (1) 66.67%
- (2) 40.33%
- (3) 41.67%
- (4) 2.4%

1.8 If the total fixed cost is Rs. 800,000 Breakeven point in units is,

- (1) Rs. 26,000
- (2) Rs. 32,000
- (3) Rs. 1,920,000
- (4) Rs. 1,290,000

1.9 Which one of the following is not an example for a cost center?

- (1) Bakery
- (2) Garment Factory
- (3) Car
- (4) Hotel



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

1.10 The following data relates to an inventory item:

Maximum usage	400 kg
Minimum usage	200 kg
Lead time	4 - 6 months

Using the above data, the re-order level would be:

- (1) 2,400 kg
- (2) 800 kg
- (3) 1,500 kg
- (4) 1,600 kg

(02 Marks*10 = 20 Marks)

Question 02:

(1) Jay Ltd. uses material "XX05" for its production process. The following Information was extracted from the books of the company for the month of January 2021:

Table 2.1

Date	Description	Quantity (Kg)	Price per Kg (Rs.)
01.01.2021	Opening balance	1,000	15
03.01.2021	Purchases	500	18
08.01.2021	Issues	750	-
25.01.2021	Purchases	200	20
30.01.2021	Issues	800	-



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

You are required to:

Calculate the closing stock value for the month of January 2021 using First In First Out (FIFO) method. (06 Marks)

(2) The following information was extracted from the books of a company relating to a product:

Annual demand	125,000 units
Purchase price per unit	Rs.100/-
Annual holding cost per unit	10% of purchase price per unit
Ordering cost per order	Rs.250/-

You are required to:

- (a) Compute the Economic Order Quantity (EOQ). (04 Marks)
- (b) Briefly explain two scientific methods of inventory control. (05 Marks)
- (c) Explain the concept of JIT with appropriate examples. (05 Marks)

Question 03:

- (1) What is the core benefit of CVP analysis? Briefly Explain. (02 Marks)



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

(2) State **three limitations** of CVP analysis. (03 Marks)

(3) Perfuma (Pvt) Ltd is a Perfume shop. Following sales and cost information are provided for their three products of "Rose", "Jasmine" and "Daffodil" for the month of February 2022.

Table 3.1-Sales and cost information

	Rose	Jasmine	Daffodil
Selling Price per unit	5,000	4,500	3,500
Variable cost per unit	2,000	1,500	1,500
Total Fixed Cost	200,000	150,000	100,000
Current sales units	1,500	1,200	2,600

Based on the given information,

- (a) Draw profit curves and show the breakeven points of each product in a chart (you can directly use excel / graph papers) (06 Marks)
- (b) Calculate **Margin of safety ratio** for each product. (03 Marks)
- (c) Calculate current profits / losses earned by the company for each product. (03 Marks)
- (d) If the organization wants to earn an additional profit worth Rs. 40,000 from "Jasmine", how many of bottles of "Jasmine" should be produced and sold? (03 Marks)



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

Question 04:

(1) Wikash (Pvt) Ltd , a bag manufacturing company uses a standard costing system. The budgeted production for the month of February 2022 was 8,000 units and standard selling price is Rs. 500/- per unit.

The standard cost card for a Bag is as follows.

Table 4.1-The standard cost card for a Bag

		Per unit (Rs.)
Direct material	1.5 meters @ Rs.200/- per meter	300
Direct labour	3 hours @ Rs.50/- per hour	150
Variable production overheads	2 hours @ Rs.25/- per hour	50
Fixed production overheads	2 hours @ Rs.30/- per hour	60
Total Standard Cost		560

Actual information for the month of February 2022 was as follows:

The company produced 7,500 units.

Breakup of actual costs for the month are as follows:

Table 4.2-Actual Information

	Rs
Direct materials (15,000 meters @ Rs.220/- per meter)	3,300,000
Direct labour (22,500 hours @ Rs.40/- per hour)	900,000
Variable production overheads	360,000
Fixed production overheads	460,000



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

You are required to: Calculate the following variances for the month of February 2022:

- (a) Direct Material Price Variance.
- (b) Direct Material Usage Variance.
- (c) Direct Material Cost Variance.
- (d) Direct Labour Cost Variance.
- (e) Variable Production Overhead Cost Variance. (10 Marks)

(2) Evaluate the possible reasons for each of the above calculated variances. (05 Marks)

(3) Evaluate the pros and cons of standard costing using appropriate examples. (05 Marks)

Question 05:

(1) What do you mean by "Fair basis of apportionment"? (04 Marks)

(2) Wix Ltd. has two production departments (Assembling and Finishing) and two service departments (Stores and Maintenance). The budgeted information for the quarter ending 30th September 2021 was as follows:

	Production		Service	
	Assembling	Finishing	Stores	Maintenance
Indirect departmental expenses (Rs.)	371,750	773,000	312,250	84,875
Floor area (square feet)	250	100	100	50
Number of employees	5	10	2	3
Value of machinery (Rs.)	2,375,000	1,900,000		475,000
Direct Labour hours	3,750	11,250		



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

(2) Other budgeted overheads for the quarter are as follows:

	RS
Machine depreciation	475,000
Staff meal cost	187,500
Building rent	95,000
Insurance on machinery	118,750

(4) Service department costs are apportioned between two production departments as follows:

	Assembly	Finishing
Stores	20%	80%
Maintenance	70%	30%

You are required to:

- (1) Prepare a statement showing how the overheads are allotted and apportioned to each of the production department. (07 Marks)
- (2) Calculate the overhead absorption rate per direct labour hour for each production department. (03 Marks)
- (3) Compare the difference between ABC costing system and the traditional method with an appropriate example and an illustration. (06 Marks)



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

Question 06:

- (1) Rishi (Pvt) Ltd. manufactures casual wear. The company has undertaken an order from a foreign customer to supply 1,000 pieces of specialized casual wear and it will be manufactured in Batch No.201X. The following costs have been incurred by the company for Batch No.201X:

Direct material	Rs.300,000/-
Direct labour - Cutting	Rs.500/- per hour (1,000 labour hours)
Direct labour - Finishing	Rs.120/- per hour (1,500 labour hours)

The company's overhead absorption rates for the production department are as follows:

Department	Absorption rate
Cutting	Rs.25/- per labour hour
Finishing	Rs.60/- per labour hour

You are required to: Calculate the **cost per unit** of Batch No.201X.

(08 Marks)

- (2) The following relates to a manufacturing company for the month of December 2021:

	Budgeted	Actual
Production overheads (Rs.)	160,000	180,000
Direct wages (Rs.)	90,000	80,000
Direct labour (hours)	160	170



Faculty of Management and Social Sciences
 Department of Management & Business Studies
 B.Mgt(Hons) in Banking and Finance
 Course CODE: BBM 561

You are required to: Compute the following:

- (a) Overhead absorption rate based on direct labour hours.
 (b) Over / under absorption of overheads for the month of December 2021. (07 Marks)
-
- (3) Explain the difference between **Marginal Costing System** and **Absorption Costing System** with an example. (05 Marks)

Question 07:

- (1) XYZ Ltd. is using piece rate system to calculate the wages of employees and wages are paid weekly basis. Two employees X and Y worked and produced 150 units and 180 units respectively during the last week. The following information was extracted from the books of the company:

You are required to: Calculate the total earnings of X and Y separately for the last week.

Normal week	8 hours x 6 days
Piece rate per unit	Rs.60
Standard time allowed to produce one unit	20 minutes
Bonus	Rs.250/- per hour on time saved

(08 Marks)



Faculty of Management and Social Sciences
Department of Management & Business Studies
B.Mgt(Hons) in Banking and Finance
Course CODE: BBM 561

- (2) What are the benefits of recording **labour costs**? (04 Marks)
- (3) State **four types of remuneration methods** and explain them briefly. (08 Marks)

Question 08:

Write short notes on **any 4** of the below.

- (1) The Material Control Cycle
- (2) Economic Order Quantity
- (3) Standard Costing System
- (4) Functions of Management Accounting
- (5) Idle Time

(05 Marks*4 = 20 Marks)

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



Faculty of Management and Social Sciences
Department of Management & Business Studies
BMgt(Hons) in Banking and Finance
Course CODE: BBM 561

Year 1 Semester II
End Semester Examination
Statistics for Business – BBM 1308

- This paper consists of EIGHT (08) questions on THIRTEEN (13) pages.
- Answer FIVE (05) 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: 2022.03.27

Pass mark: 40%

Time: 03 Hours

Question 01: (Compulsory)

- 1) Sampling is simply a process of learning about the on the basis of a sample drawn from it.
- A. Census
 - B. Population
 - C. Group
 - D. Area
 - E. Research

- 2) The variance of 10 observation is 2. If each observation is increased by 6, variance of the resulting observation is,
- A. 2
 - B. 36
 - C. 4
 - D. 5
 - E. 6

Question no 3, 4, and 5 are based on the 3 data sets A, B and C given below.

Data set A: 2 3 7 1 3 2 3

Data set B: 7 5 9 12 5 3 8

Data set C: 4 4 11 7 2 3 4

- 3) Which one of the following statement/s true?
- A. Mean of data set A = Mode of Data set C
 - B. Mean of data set C = Median of data set B
 - C. Mean of data set B = Median of data set B
 - D. Median of data set B = Mode of data set A
 - E. Mean, median and mode of data set A is equal to 4
- 4) Which one of the following statement/s true?
- A. Mean of Data set A = Mean of Data set B
 - B. Mean of Data set B = Mean of Data set C
 - C. Mean of data set C = Mean of Data set A
 - D. Mean of Data set A = Median of Data set A
 - E. Mean of Data set C = Median of data set C
- 5) Which one of the following statement/s true?
- A. Mean, Median and mode of data set A is equal to 3
 - B. Mean, Median and mode of data set A is equal to 4

- C. Mean, Median and mode of data set B is equal to 7
D. Mean, Median and mode of data set C is equal to 4
E. Mean, Median and mode of data set A is not equal
- 6) In a moderately symmetric distribution, what is the relationship between mean, median and mode?
- A. Mode = 2 median - 3 mean
B. Mode = 3 median - mean
C. Mode = 3 median - 2 mean
D. Mode = 3 median + 2 mean
E. Mode = 2 median + 3 mean
- 7) If $E(X) = 2$, what is the value of $E(3X + 2)$
- A. 2
B. 8
C. 6
D. 4
E. 5
- 8) If $V(X) = 3$, what is the value of $V(3X + 2)$?
- A. 11
B. 9
C. 29
D. 27
E. 20
- 9) The mean of a distribution is 33, the median is 34, and the mode is 35.5. it is most likely that this distribution is
- A. Positively skewed

- B. Symmetric
- C. Negatively skewed
- D. Asymptotic
- E. Right skewed

10) The sample space for a certain random experiment is $S = \{a_1, a_2, a_3, a_4\}$

- A. $P(a_1) = \frac{1}{2}, P(a_2) = \frac{1}{2}, P(a_3) = \frac{1}{4}, p(a_4) = \frac{1}{5}$
- B. $P(a_1) = \frac{1}{2}, P(a_2) = 0, P(a_3) = \frac{1}{4}, p(a_4) = \frac{1}{4}$
- C. $P(a_1) = \frac{3}{2}, P(a_2) = \frac{1}{2}, P(a_3) = (-\frac{1}{4}), p(a_4) = \frac{1}{5}$
- D. $P(a_1) = \frac{1}{2}, P(a_2) = \frac{5}{2}, P(a_3) = \frac{1}{4}, p(a_4) = \frac{1}{5}$
- E. $P(a_1) = \frac{1}{2}, P(a_2) = \frac{1}{2}, P(a_3) = \frac{1}{4}, p(a_4) = (-\frac{1}{5})$

Answer Question 11 to 14 using below.

If A and B are two events with $P(X) = \frac{1}{2}, P(Y') = \frac{5}{8}$ and $P(XUY) = \frac{3}{4}$

11) What is the value of $P(X \cap Y)$

- A. $\frac{3}{8}$
- B. $\frac{5}{8}$
- C. $\frac{1}{8}$
- D. $\frac{7}{8}$
- E. $\frac{1}{4}$

12) What is the value of $P(X' \cap Y')$

- A. $\frac{1}{4}$
- B. $\frac{1}{2}$
- C. $\frac{2}{3}$
- D. $\frac{1}{3}$
- E. $\frac{3}{4}$

13) What is the value of $P(X'UY')$

- A. $3/8$
- B. $5/8$
- C. $1/8$
- D. $7/8$
- E. $1/4$

14) What is the value of Find $P(X' \cap Y)$

- A. $1/2$
- B. $1/4$
- C. $3/4$
- D. $1/8$
- E. $3/8$

15) 'Parameter' refers to the characteristics of the

- A. Population
- B. Sample
- C. Mean
- D. All of the above
- E. None of the above

16) The measures used to calculate the variation present among the observations in the unit of the variable is called

- A. Relative measures of dispersion
- B. Absolute measures of dispersion
- C. Coefficient of Skewness
- D. Coefficient of variance
- E. Kurtosis

17) Given below the four sets of observations. Which set has the minimum variation?

- A. 36, 38, 40, 42, 44
- B. 20, 30, 40, 50, 60
- C. 30, 40, 50, 60, 70
- D. 38, 39, 40, 41, 42
- E. 38, 39, 42, 44, 45

18) If the observations of a variable X are, -4, -20, -30, -44 and -36, then the value of the range will be:

- A. 44
- B. 48
- C. -40
- D. 40
- E. -48

19) Half of the difference between upper and lower quartiles is called

- A. Interquartile range
- B. Variance
- C. Quartile deviation
- D. Mean deviation
- E. Standard deviation

20) $S.D(X) = 6$ and $S.D(Y) = 8$. If X and Y are independent random variables, then $S.D(X-Y)$ is

- A. 2
- B. 4
- C. 10
- D. 14
- E. 100

(20 Marks)

Question 02

- (a) Explain whether or not a Binomial Distribution can be used to model the following situations. In case Binomial Distribution can be used, give a definition of the random variable and suggest suitable values for 'n' and 'p'.
- (i) Number of Boys in a family of 5 children
 - (ii) The number of throws in a die until 5 is observed
 - (iii) The number of white balls selected when 3 balls are drawn from a bag which consists of 13 white balls and 7 red balls.

(4*3 Marks)

- (b) Paul believes that 40% of people in his town will vote for him in the next provincial council election. He decided to conduct a survey to verify this.

Find the minimum number of people the survey should ask to have a mean number of 100 voting for Paul.

(08 Marks)

Question 03

The lifetime of an electric component is normally distributed with mean 800 hours and standard deviation of 60 hours.

Find,

- (a) The percentage that the electric component fails before 680 hours
- (b) The percentage of electric component with a lifetime of at most 980 hours
- (c) The percentage of electric component with a lifetime between 680 hours and 920 hours
- (d) If the standard deviation remains 60 hours what would have been the mean to ensure that not more than 10% of the components before 800 hours

(5*4 Marks)

Question 04

- (a) If $P(X) = \frac{2}{3}$, $P(X \cup Y) = \frac{3}{4}$ and $P(Y') = \frac{3}{8}$
- (i) Find $P(X' \cap Y')$
 - (ii) Find $P(X' \cup Y')$

- (iii) Find $P(X \cap Y)$
 (iv) State whether event X and Y are independent

(2*4 Marks)

- (b) Statistics class for first years consists of 5 Marketing graduands and 3 HR graduands. Statistics class for second years consists of 4 Marketing graduands and 5 HR graduands. One graduand needs to be selected from both years to form a committee of 2 graduands for special purpose.

Find the probability that one of them would be a Marketing graduand and the other person would be a HR graduand.

(04 Marks)

- (c) The following table classifies 1000 persons by their sex and by whether or not they favour a certain developmental proposal.

	Male	Female	TOTAL
Favour a proposal	250	450	700
Oppose to proposal	170	130	300
TOTAL	420	580	1000

If a person is selected at random, find the probabilities that,

- (i) The selected person favours the development proposal.
 (ii) The selected person is a male given that the person favours the proposal
 (iii) The selected person oppose the proposal given that the person is a male

(02 Marks)

(03 Marks)

(03 Marks)

Question 05

- (a) State whether the following could be modelled by a Poisson distribution or not. Justify your answer.
 (i) The number of misprints on a page in the first draft of a book.

(ii) Number of bacteria in 1m^3 of water.

(04 Marks)

(b) The number of accidents per week at a certain road has a Poisson Distribution with parameter 2.5.

Find the probability that,

- (i) Exactly 5 accidents will occur in a particular week (04 Marks)
- (ii) More than 14 accidents will occur in a 4 week period (05 Marks)

(c) Chamal is an Inter-university basketball player. He is a 70% free throw shooter. That means his probability of making a free throw is 0.70. Mark is the coach of Chamal, need to calculate the probability that Chamal makes his first free throw on his fifth shot.

- (i) Write the suitable probability distribution to model the above case (02 Marks)
- (ii) Write the Probability density function of the above suggested model (02 Marks)
- (iii) Calculate the probability that Chamal makes his first free throw on his fifth shot. (03 Marks)

Question 06

In a comparison of the workloads of two warehouses, the number of sales orders received per week recorded over a 15 weeks period and the results are shown in the table given below.

Table 1: Weekly orders received by the Warehouse A and B

<i>Week</i>	<i>Warehouse A</i>	<i>Warehouse B</i>
1	583	455
2	518	508
3	574	498
4	572	519
5	591	568
6	556	571
7	602	591

8	578	603
9	598	621
10	506	605
11	548	592
12	523	634
13	539	629
14	541	635
15	575	589

a) Calculate the descriptive statistics given below for Warehouse A and Warehouse B.

- i. Range
- ii. Median
- iii. Mean
- iv. First quartile
- v. Third quartile
- vi. Standard Deviation

(12 Marks)

b) Write a short description comparing the workloads of Warehouse A and B, by using the descriptive statistics calculated in 'part a)' above.

(03 Marks)

c) Suggest the best possible graph to illustrate these data, indicating the important aspects that should be considered when creating the graph. (Constructing exact measurements given in the table 1 is not required, but a sketch can be drawn.)

(05 Marks)

Question 07

a) State clearly the mistakes and issues that should be considered in each of the following situations.

- (i) In a market research survey, 85% of the people state that they prefer Product A than Product B. (03 Marks)
- (ii) Learning methods of undergraduates those who are following BSc ITML were examined by visiting only the University Library. (03 Marks)
- (iii) ICT (Information Communication Technology) based learning methods used by the DAIs (Degree Awarding Institutes) in Sri Lanka are assessed by considering CINEC Maritime Campus only. (03 Marks)
- b) In each of the following situations, explain what graphical display you would use to present the information most appropriately. Do a sketch of the display highlighting the important aspects that should be considered in those graphs.
- (i) Student Coordinator of the Faculty of Management at CINEC Campus should present the number of students recruited for the Logistics Degree programme for the period of 2012 to 2022. (02 Marks)
- (ii) Student Coordinator of the Faculty of Management at CINEC Campus needs to present, the number of male and female students eligible for the undergraduate programme from each of the streams: Mathematics, Bio-Sciences, Commerce and Arts. (03 Marks)
- (iii) Course Coordinator of the Faculty of Management at CINEC Campus needs to compare marks obtained by first year undergraduate students for Mathematics and Business English modules. (03 Marks)
- (iv) CINEC Marketing team wants to compare the number of students registered for THREE departments (Department of Logistics, Department of Management and Department of Law) of the Management Faculty by their gender (03 Marks)

Question 08

- (a) Registrar office of CINEC campus is interested in measuring the Students' satisfaction survey of undergraduates of CINEC. All undergraduates of CINEC will be taken into consideration in conducting this survey.

Research Team wants to check the impact of below factors on the students' satisfaction.

- Academic related activities
- Recreational Activities and Leisure
- Lecture Halls
- Availability of Teaching aids
- Students' welfare activities

- (i) Identify TWO demographic variables needed to be collected from the respondents of the above study. (02 Marks)
- (ii) Write the measurement scale of the above identified variables. (02 Marks)
- (iii) Identify the population of the above study. (02 Marks)
- (iv) Assume that this research proposal is approved by the Board of Directors on 27th March 2022, and research team needs to complete the survey and submit Student Satisfaction survey report on or before 31st May 2022.

Suggest a suitable data collection method for the above study, justify your answer.

(03 Marks)

- (v) Explain TWO challenges that the research team face in data collection process (04 Marks)

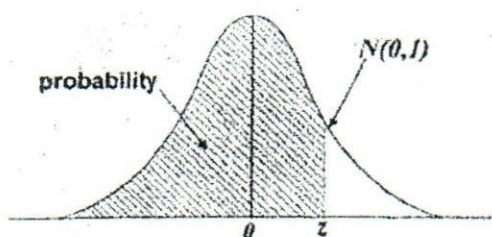
- (b) Identify the variable type (Categorical, Numerical Discrete or Numerical Continuous) and the suitable measurement scale for the following variables (07 Marks)

Table 8:1 - Variables

#	Name of the variable	Type of the Variable	Measurement Scale
(i)	Age		
(ii)	Gender		
(iii)	Number of members in the family		
(iv)	Gross monthly income in LKR		
(v)	Ethnicity		
(vi)	Area of the Dean's Office		
(vii)	Living district		

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

The Standardised Normal Distribution Table



The distribution tabulated is that of the normal distribution with mean **zero** and standard deviation **1**. For each value of Z , the standardized normal deviate, (the proportion P , of the distribution less than Z) is given. For a normal distribution with mean μ and variance σ^2 the proportion of the distribution less than some particular value X is obtained by calculating $Z = (X - \mu) / \sigma$ and reading the proportion corresponding to this value of Z .

Z	P	Z	P	Z	P
-4.00	0.00003	-1.00	0.1587	1.05	0.8531
-3.50	0.00023	-0.95	0.1711	1.10	0.8643
-3.00	0.0014	-0.90	0.1841	1.15	0.8749
-2.95	0.0016	-0.85	0.1977	1.20	0.8849
-2.90	0.0019	-0.80	0.2119	1.25	0.8944
-2.85	0.0022	-0.75	0.2266	1.30	0.9032
-2.80	0.0026	-0.70	0.2420	1.35	0.9115
-2.75	0.0030	-0.65	0.2578	1.40	0.9192
-2.70	0.0035	-0.60	0.2743	1.45	0.9265
-2.65	0.0040	-0.55	0.2912	1.50	0.9332
-2.60	0.0047	-0.50	0.3085	1.55	0.9394
-2.55	0.0054	-0.45	0.3264	1.60	0.9452
-2.50	0.0062	-0.40	0.3446	1.65	0.9505
-2.45	0.0071	-0.35	0.3632	1.70	0.9554
-2.40	0.0082	-0.30	0.3821	1.75	0.9599
-2.35	0.0094	-0.25	0.4013	1.80	0.9641
-2.30	0.0107	-0.20	0.4207	1.85	0.9678
-2.25	0.0122	-0.15	0.4404	1.90	0.9713
-2.20	0.0139	-0.10	0.4602	1.95	0.9744
-2.15	0.0158	-0.05	0.4801	2.00	0.9772
-2.10	0.0179	0.00	0.5000	2.05	0.9798
-2.05	0.0202	0.05	0.5199	2.10	0.9821
-2.00	0.0228	0.10	0.5398	2.15	0.9842
-1.95	0.0256	0.15	0.5596	2.20	0.9861
-1.90	0.0287	0.20	0.5793	2.25	0.9878
-1.85	0.0322	0.25	0.5987	2.30	0.9893
-1.80	0.0359	0.30	0.6179	2.35	0.9906
-1.75	0.0401	0.35	0.6368	2.40	0.9918
-1.70	0.0446	0.40	0.6554	2.45	0.9929
-1.65	0.0495	0.45	0.6736	2.50	0.9938
-1.60	0.0548	0.50	0.6915	2.55	0.9946
-1.55	0.0606	0.55	0.7088	2.60	0.9953
-1.50	0.0668	0.60	0.7257	2.65	0.9960
-1.45	0.0735	0.65	0.7422	2.70	0.9965
-1.40	0.0808	0.70	0.7580	2.75	0.9970
-1.35	0.0885	0.75	0.7734	2.80	0.9974
-1.30	0.0968	0.80	0.7881	2.85	0.9978
-1.25	0.1056	0.85	0.8023	2.90	0.9981
-1.20	0.1151	0.90	0.8159	2.95	0.9984
-1.15	0.1251	0.95	0.8289	3.00	0.9986
-1.10	0.1357	1.00	0.8413	3.50	0.99977
-1.05	0.1469			4.00	0.99997