

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001



Year 1 Semester 1

SEMESTER END EXAMINATION

Principles of Management and Economics - GS1101

- There are FIVE (05) questions in this paper. Answer the ALL questions.
- This paper contains three (03) pages.
- You may use appropriate graphs, diagrams, and 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: 2023.03.24

Time: 03 Hours

Question 01

(20 Marks)

1. How do you define the term "Management"? (02 Marks)
2. Discuss how equity theory can motivate employees. (04 Marks)
3. What are the three components of "Strategic HRM"? (04 Marks)
4. 'Organization is the Centre of Management' briefly explains why organizations are important. (05 Marks)
5. Distinguish between the Macro and Micro Environments of an Economy. (05 Marks)

Question 02

(20 Marks)

1. The process of decision-making is driven in part by the quality of information available. Information systems help managers to gather data, turn them into useful information, and use that information to make effective problem-solving decisions.

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

- a. What are the three common approaches managers use in decision-making?
(03 Marks)
- b. List down the five essential characteristics of useful information with brief explanations.
(10 Marks)
- c. What do you think is the most effective way in decision making Group or Individual? Discuss the pros and cons of both.
(07 Marks)

Question 03**(20 Marks)**

Maslow's theory of Human needs explains a behavioral approach to management. Do you agree? Discuss.

Question 04**(20 Marks)**

Assume that you are the HR manager of ABC Company. Explain how you develop and maintain a quality workforce in your company.

Question 05**(20 Marks)**

"The market structure refers to the various types of markets prevailing in an economy for various industries". Briefly explain the different market structures with real-world examples.

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

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001



Year I Semester I

SEMESTER END EXAMINATION

General English - GS1103

- There are FIVE (05) questions in this paper. Answer ALL the questions.
- This paper contains eight (08) pages.
- 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: 2023.03.22

Time: 03 Hours

Question 01:

(20 Marks)

Read the following passage and answer all the questions.

Princess Mako sacrificed royal status for love.

Princess Mako of Akishino is the first child and elder daughter of the Crown Prince and Crown Princess of Japan. She is a niece of Emperor Naruhito. In October 2021 Japan's Princess Mako married her college sweetheart Kei Komuro, a lawyer by profession and a commoner. Despite losing her royal status, Princess Mako of Japan eventually won the battle for her love.

Under Japanese law, female imperial family members forfeit their royal titles upon marriage to a "commoner" although male members do not. Thus, she gave up her imperial title and left the imperial family, as required by the Imperial Household Law. Consequently, Princess Mako also skipped the usual rites of a royal wedding and turned down a payment offered to royal females upon their departure from the family. She became an exception while being the first female member of the Japanese royal family to decline both.

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

The couple is expected to move to the US - where Mr Komuro works as a lawyer - after marriage. The move has drawn inevitable comparisons with British royals Meghan Markle and Prince Harry, earning the newlyweds the nickname "Japan's Harry and Meghan".

The reaction to Princess Mako and Kei Komuro's relationship by some media and people in Japan, has highlighted the pressure women in Japan's imperial family face. The Imperial Household Agency has said Princess Mako suffered from post-traumatic stress disorder because of the harsh criticism from the media and on social media around her engagement since it was announced nearly four years ago.

She is not the first woman in the Japanese royal family to be affected this way. Her grandmother Empress Emerita Michiko temporarily lost her voice nearly 20 years ago when criticised by the media as being somehow unfit to be the Emperor's wife. Her aunt-in-law Empress Masako suffered depression after she was blamed for failing to produce a male heir.

Royal women have been forced to strictly adhere to certain expectations - they must be supportive of their husbands, produce an heir, and be a guardian of Japan's traditions. If they fall short, they are savagely criticised.

This is also true of Princess Mako, who said she would give up her royal status. But even that has not been enough to stop the public and media attacks on her, her husband, and their marriage.

A. Write the answers to the following questions. (10 Marks)

i. Who is the uncle of Princess Mako mentioned in the passage? (02 Marks)

.....
.....

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

ii. When did Princess Mako get married? (02 Marks)

.....

iii. What is Princess Mako's husband? (02 Marks)

.....

iv. Mention two things Princess Mako refused to do or accept according to the paragraph? (04 Marks)

.....

.....

B. State whether the following statements are true (T) or false. (F) (1*5= 5 Marks)

- i. Male members of the royal family must lose their royal status if they married a commoner. ()
- ii. Princess Mako said no to a royal wedding and the royal payment upon her departure. ()
- iii. The newly wedded Japanese couple will be moving to US. ()
- iv. Empress Emerita Michiko was considered as the most suitable wife to the emperor by the media. ()
- v. The public and media's negative criticism stopped when Princess Mako gave up her title. ()

C. Find similar words for the words given below from the passage. (1*5= 5 Marks)

- i. Royal :
- ii. War :
- iii. Leaving :
- iv. Not permanently:
- v. People :

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

Question 02**(20 Marks)**

Read the following passage and complete the blanks using the correct form of the verb given within brackets.

Love for trains

Herbie loves trains! He first _____ (see) a train when he _____ (be) five years old and he _____ (be) absolutely fascinated. He _____ (go) to a different train station every week and _____ (write) down the engine number of every train he sees. He _____ (do) this since he _____ (be) seven. By the time he left school he _____ (collect) over 5000 different engine numbers from all over the world. At one time, while he _____ (stand) at a station he _____ (see) something very strange. He _____ (wait) for a train for an hour when he suddenly _____ (see) an old steam locomotive coming down the tracks. It _____ (not stop) at the station and when it _____ (pass), Herbie _____ (see) that all the passengers _____ (wear) old-fashioned clothes. He _____ (tell) the station manager about this, but the manager _____ (say) that no steam locomotive _____ (pass) through the station for years, and that the last one _____ (crash), killing everyone on board.

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

Question 03**(20 Marks)**

Fill in the blanks with the correct relative pronoun. (that/which, who, whose, and whom) (2*10= 20 Marks)

- i. He bought all the tools are required to fix his old car.
- ii. This is the doctor.....helped Sara recover from her illness.
- iii. This is the girl..... he fell in love with in Madrid.
- iv. In spite of all the difficulties, she managed to pass the exam
..... didn't surprise people who knew her.
- v. These are the kidsparents were arrested.
- vi. Give me the plate..... is on the table.
- vii. I don't know did it.
- viii. The criminals, two of managed to escape, broke into
a bank downtown.
- ix. The police identified the murderer fingerprints were
on the knife.
- x. I know the candidate I am going to support in the
next elections.

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

Question 4**(20 Marks)**

Change the following sentences into Passive voice.

(2*10= 20 Marks)

- i. Someone will attend to you later.
.....
.....
- ii. The company employs 5 people.
.....
.....
- iii. They are going to buy a new TV set next week.
.....
.....
- iv. My great grandfather built this house 60 years ago.
.....
.....
- v. A loud noise woke me up last night.
.....
.....
- vi. She will solve all her problems.
.....
.....
- vii. The lecture is conducting a practical session.
.....
.....
- viii. He has informed his parents about the incident.
.....
.....
- ix. Ms. Ramani meets Ms. Neela every Friday.
.....
.....
- x. I will play the piano for the concert.
.....
.....

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001



Year 1 Semester 1

SEMESTER END EXAMINATION

Computer Organization & Architecture – IT1102

- There are FIVE (05) questions in this paper. Answer ALL questions.
- This paper contains two (02) pages.
- 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: 2023.03.20

Time: 03 Hour

Question 01:

(20 Marks)

1. Through a diagram briefly explain D-Flip-Flop (04 Marks)
2. Explain how JK-Flip Flop is different from T-Flip Flop? (06 Marks)
3. Using the diagram indicated above explain the following: (10 Marks)
 - a. Amplitude
 - b. Frequency
 - c. Wave Length
 - d. Phase

Question 02

(20 Marks)

1. How is Asynchronous Counters different from Synchronous Counters? (04 Marks)
2. Explain the clock triggering theory (06 Marks)
3. Explain the differences between Duty Cycle; Frequency; Pulse Width in measurement of signals (10 Marks)

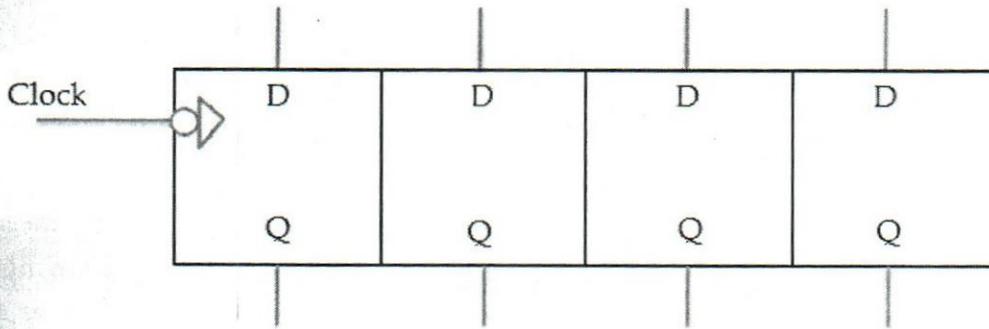
Question 03

(20 Marks)

1. What does it mean through "Persistent Memory"? Briefly explain how it function (04 Marks)

2. Explain the issues faced in the below indicated shift register (Figure 01)?

(06 Marks)



(Figure 01: Shift register)

3. Through a diagram explain Serial and Parallel Data Formats in Registers

(10 Marks)

Question 4

(20 Marks)

1. Briefly discuss the Fetching in CPU Operation? (04 Marks)
2. How is a Compiler different from an Interpreter? (06 Marks)
3. How is Address bus, Data bus, and Control bus different from each other?

(10 Marks)

Question 05

(20 Marks)

1. Explain how Off-line Storage is different from Inboard Memory? (04 Marks)
2. What is the management plane of a computer? (06 Marks)
3. What does it mean by Flags of Register? (10 Marks)

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

CINEC Campus
 Faculty of Engineering and Technology
 Department of Information Technology
 BSc (Hons) in Software Engineering
 IT_UGC_001/IT_IFLS_001



Year I Semester I

SEMESTER END EXAMINATION

Mathematics for Computing I - MA1101

- There are FIVE (05) questions in this paper. Answer the ALL questions.
- This paper contains FOUR (04) pages.
- 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: 2023.03.16

Time: 03 Hour

Question 01:

(20 Marks)

a) Rationalize the denominator

I. $\frac{\sqrt{3}-2}{5-2\sqrt{2}}$

(02 Marks)

II. $\frac{\sqrt{3}-2}{2+\sqrt{3}}$

(02 Marks)

b) Solve the following equations:

I. $2\log_4 x - \log_4(x - 3) = 4$

(03 Marks)

II. $9^x - 6(3^x) + 5 = 0$

(04 Marks)

c)

I. Find the term independent of x in the expansion of $\left(3x^2 - \frac{6}{x}\right)^9$

(04 Marks)

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

- II. Find the three terms in ascending powers of x of the binomial expansion of

$$(4 + kx)^7$$

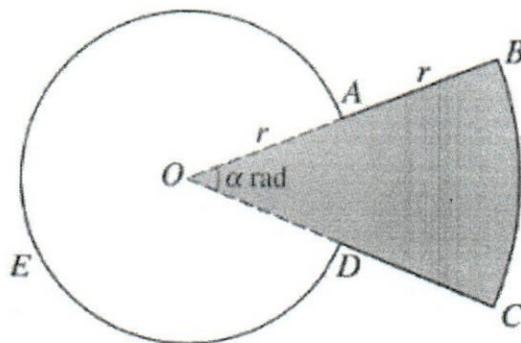
If the coefficient of the x^2 is 6 times of the coefficient of x find the value of k

(05 Marks)

Question 02

(20 Marks)

- a) A viral epidemic in a particular town seriously harmed the health of its residents, affecting their ordinary routine. It was revealed that the disease's virus spread in a geometric progression every day. The amount of infectious virus particle gets doubled each day, being 5 particles on the first day. Find the day when the infectious virus particles just grow over 5115 units. (05 Marks)
- b) Sum of 3 consecutive terms of an arithmetic progression is 27 and their product is 288. Find the three terms (07 Marks)
- c) Below graph shows a metal plate that was created by joining two sectors around the same center O .



CINEC Campus
 Faculty of Engineering and Technology
 Department of Information Technology
 BSc (Hons) in Software Engineering
 IT_UGC_001/IT_IFLS_001

- I. Find the perimeter of the metal plate in terms of π and r . (02 Marks)
- II. If the shaded and unshaded pieces are equal in area find the value of α in terms of π (06 Marks)

Question 03
(20 Marks)

a) Let $f(x) = 3\cos\left(2x - \frac{\pi}{3}\right) - 4$

- I. Write the amplitude and the horizontal shift of $f(x)$ (02 Marks)
- II. Sketch the graph of $f(x)$ (2.5 Marks)
- III. Find the maximum and minimum value of $f(x)$ (02 Marks)

b) Prove the following identity

$$\sin(2A + B)\cos(2A - B) - \cos(2A + B)\sin(2A - B) = 2\sin B \cos B$$

(02 Marks)

c) Let $\sin A = \frac{3}{5}$, $\cos B = \frac{7}{25}$, $\frac{\pi}{2} < A < \pi$ and $0 < B < \frac{\pi}{2}$

Find the value of the following ratios using trigonometric identities (11.5 Marks)

- I. $\sin(A - B)$
- II. $\cos 2B$
- III. $\tan(A + B)$

Question 04
(20 Marks)

a) Let $f(x) = \frac{3x-2}{5-2x}$ and $g(x) = \frac{1}{x-1}$

- I. Find the inverse of $f(x)$ and its domain and range (04 Marks)
- II. Find $g \circ f$ (1.5 Marks)

CINEC Campus
 Faculty of Engineering and Technology
 Department of Information Technology
 BSc (Hons) in Software Engineering
 IT_UGC_001/IT_IFLS_001

b) Let $f(x) = \frac{2x-3}{(x^2+2)(3x-1)}$ Resolve $f(x)$ into partial fractions (6.5 Marks)

c) Let $A = \begin{pmatrix} a & d & -3 \\ 4 & b & 7 \\ e & f & c \end{pmatrix}$

If A is a skew symmetric matrix,

I. Find the values of the unknown terms (03 Marks)

II. Find A^2 (05 Marks)

Question 05

(20 Marks)

a) Use Cramer's rule to solve the following linear system (13 Marks)

$$2x_1 + 3x_2 - 5x_3 = 1$$

$$x_1 + x_2 - x_3 = 2$$

$$2x_2 + x_3 = 8$$

b) The Consider the following system of linear equations.

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

$$-2x + 4y - z = 11$$

$$x + 3y + 2\alpha z = 8$$

I. Write the above system in matrix form (01 Mark)

II. What value of α makes the above system inconsistent (Use Gaussian Elimination)? (04 Marks)

III. If the system is consistent, Find an expression for y in terms of α (02 Marks)

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

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

Year I Semester I

SEMESTER END EXAMINATION

Introduction to Computer Programming – IT1101

- There are FIVE (05) questions in this paper. Answer the ALL questions.
- This paper contains three (03) pages.
- 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: 2023.03.14

Time: 03 Hour

Question 01:

(20 Marks)

1. Computer Programming has evolved from Punch Card input to integration of Mega-line libraries over the last half of the century.
 - (a) Describe briefly the importance of Algorithm tools. (02 Marks)
 - (b) Explain the term 'Algorithm' and its Purpose in Computer Programming. (03 Marks)
 - (c) Write five (05) points about C language and its longer popularity. (05 Marks)
 - (d) Write a summary not exceeding 10 points on the evolution of Computer Programming Languages highlighting any technological breakthroughs. (10 Marks)

Question 02

(20 Marks)

1. C language basics are the important fundamentals for a good Programmer.
 - (a) Explain briefly the difference between Reserved Words and Standard Identifiers. (02 Marks)
 - (b) Describe the term 'Format Specifier' and write an example of its use. (04 Marks)

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

- (c) Write a C code example for Conditional Operator and briefly explain it. (04 Marks)
- (d) Write a summary on Selection and Repetition Control structures available with C Language. (10 Marks)

Question 03 (20 Marks)

Operators are critical in value assignment and comparison within a computer programme.

- (a) Explain using an illustration the purpose of a Multi-dimension Array. (02 Marks)
- (b) Briefly explain the use of Bit-wise Operators in C. (04 Marks)
- (c) C Structures allow efficient handling of Data within the Program. Explain with an example. (04 Marks)
- (d) List ten (10) comparison Operators available in C. (10 Marks)

Question 04 (20 Marks)

A Functions is a critical feature in Modern Programming Languages.

- (a) Explain in points the use of Global and local variables in combination with functions. (04 Marks)
- (b) Explain briefly the difference between 'Pass by Value' and 'pass by Reference'. (04 Marks)
- (c) Describe the purpose of 'main()' function in C and its use of arguments. (06 Marks)
- (d) Briefly explain the relationship between 'GIGO', Verification and Validation. (06 Marks)

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

Question 05

(20 Marks)

Every C Program must be tested during and after development.

- (a) List Five (05) levels of Testing. (05 Marks)
- (b) Briefly explain which testing approach is more suited for Acceptance Testing. (05 Marks)
- (c) A program is to be written to input any number and to output whether it is Even or Odd Number. Provide a Test case in a table format to Test the Module. (10 Marks)

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

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001



Year 1 Semester 1

SEMESTER END EXAMINATION

Professional Practice – GS1103

- There are FIVE (05) questions in this paper. Answer the ALL questions.
- This paper contains three (03) pages.
- 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: 2023.03.07

Time: 03 Hour

Question 01:

(20 Marks)

Effective communication skills play a vital role in all aspects of our lives. As a student, in the workplace, or in social relationships, communication skills are of utmost importance. Proper communication skills help people in understanding each other and work together.

1. Describe the significance of facial expressions and eye contact in oral communication. (04 Marks)
2. Briefly explain different types of communication patterns and their applications with real life examples. (08 Marks)
3. List down barriers to communication in a multi-cultural environment. Explain the way in which to overcome the barriers in a successful manner. (08 Marks)

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

Question 02**(20 Marks)**

1. List down two types of reports with two (02) examples for each. (06 Marks)
2. Briefly explain the process of report writing with the aid of formal report format. (06 Marks)
3. Briefly explain why professional etiquette is important to improve the quality of work environments. (08 Marks)

Question 03**(20 Marks)**

1. Define the term "Group". (01 Mark)
2. List down four (04) characteristics of effective groups. (02 Marks)
3. Define the term "leader". List down two (02) important leadership qualities. (03 Marks)
4. List and explain any three (03) types of groups with an example for each. (06 Marks)
5. Briefly explain any four (04) stages of group development. (08 Marks)

Question 4**(20 Marks)**

1. What are the common characteristics shared by most of the professions. List four (04) characteristics. (02 Marks)
2. Briefly explain why CPD (Continuous Professional Development) is important for any profession. (04 Marks)

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

3. Briefly explain below three (03) terms
 - a. Confidentiality
 - b. Copywrite.
 - c. Privacy

(06 Marks)

4. Out of four (04) briefly explain two (02) sections of BCS Code of Conduct.

(08 Marks)

Question 05

(20 Marks)

1. Briefly explain the importance of time management as a university student.
You need to explain at least three (03) important reasons. (06 Marks)
2. Briefly explain the importance of referencing in academic writing. (04 Marks)
3. Explain the term "academic misconduct" with an example from university environment. (04 Marks)
4. Briefly explain below terms
 - a. Paraphrasing
 - b. Direct Quotation
 - c. Citation

(06 Marks)

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

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001



Year 1 Semester 1

SEMESTER END EXAMINATION

Professional Practice – GS1103

- There are FIVE (05) questions in this paper. Answer the ALL questions.
- This paper contains three (03) pages.
- 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: 2023.03.07

Time: 03 Hour

Question 01:

(20 Marks)

Effective communication skills play a vital role in all aspects of our lives. As a student, in the workplace, or in social relationships, communication skills are of utmost importance. Proper communication skills help people in understanding each other and work together.

1. Describe the significance of facial expressions and eye contact in oral communication. (04 Marks)
2. Briefly explain different types of communication patterns and their applications with real life examples. (08 Marks)
3. List down barriers to communication in a multi-cultural environment. Explain the way in which to overcome the barriers in a successful manner. (08 Marks)

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

Question 02**(20 Marks)**

1. List down two types of reports with two (02) examples for each. (06 Marks)
2. Briefly explain the process of report writing with the aid of formal report format. (06 Marks)
3. Briefly explain why professional etiquette is important to improve the quality of work environments. (08 Marks)

Question 03**(20 Marks)**

1. Define the term "Group". (01 Mark)
2. List down four (04) characteristics of effective groups. (02 Marks)
3. Define the term "leader". List down two (02) important leadership qualities. (03 Marks)
4. List and explain any three (03) types of groups with an example for each. (06 Marks)
5. Briefly explain any four (04) stages of group development. (08 Marks)

Question 4**(20 Marks)**

1. What are the common characteristics shared by most of the professions. List four (04) characteristics. (02 Marks)
2. Briefly explain why CPD (Continuous Professional Development) is important for any profession. (04 Marks)

CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001

3. Briefly explain below three (03) terms
 - a. Confidentiality
 - b. Copywrite.
 - c. Privacy

(06 Marks)

4. Out of four (04) briefly explain two (02) sections of BCS Code of Conduct.

(08 Marks)

Question 05**(20 Marks)**

1. Briefly explain the importance of time management as a university student.
You need to explain at least three (03) important reasons. (06 Marks)
2. Briefly explain the importance of referencing in academic writing. (04 Marks)
3. Explain the term "academic misconduct" with an example from university environment. (04 Marks)
4. Briefly explain below terms
 - a. Paraphrasing
 - b. Direct Quotation
 - c. Citation

(06 Marks)

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