CINEC
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PAST PAPERS

Faculty	Department / Section/Division
Not Applicable	Learning Resource Centre

Past Papers

Faculty of Humanities & social Sciences
Department of Education & Language

BED. (Hons) in Information Technology
(Year 1 – Semester I)
2019 - 2022

Colombo International Nautical and Engineering College
Winner - World Class - Global Performance Excellence Award 2012 - Education Organization
Winner - International Asia Pacific Quality Award – 2010 - Best in Class - Education Organization
Winner - Sri Lanka National Quality Award 1999 – 2004 – 2009 – 2014
Approved for Quality Management System

EDUCATION & TRAINING COURSE: BACHELOR OF EDUCATION (HONS) IN INFORMATION TECHNOLOGY
COURSE CODE: BDI3023

END SEMESTER EXAMINATION QUESTION PAPER
YEAR I – SEMESTER I
INFORMATION SYSTEMS & DATA MODELLING

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	Education and Languages

Date: 2019.10.07　　　　　　　　　　　　　　　　　Total Marks = 100

INSTRUCTIONS TO CANDIDATES
- *Duration of the examination is 03 hours*
- *Answer FIVE (05) questions out of SEVEN (07) and each question carries equal marks.*
- *Candidates could be disqualified if you violate examination rules.*
- *Candidates are not allowed to communicate with and disturb fellow candidates during the examination.*

Question 01

(a) Distinguish between data and information with one example for each.　　(04 Marks)

(b) Define the term "Database".　　(04 Marks)

(c) List four (04) advantages of database systems over the traditional file processing systems.

　　(04 Marks)

(d) Briefly explain the steps in database development process.　　(08 Marks)

Question 02

(a) Consider the relational schema given below and draw an ER diagram that capture the information of this schema.　　(10 Marks)

Employee (EmpId, Name, Address, EmailID, DoB)

Book (BookID, Title, Author, Publisher)

Borrow (BorrowID, EmpID, BookID, BorrowDate)

(b) Write the following queries in SQL based on above relational schema.　　(10 Marks)

　　a. Display all details of Books published by McGraw-Hill

　　b. Display the names and addresses of all "Clerks" in this Company.

Question 03

(a) Briefly explain below terms in the context or of ER diagrams.   (06 Marks)

    a. Entity

    b. Attribute

    c. Relationship

(b) Explain "Week entity" with an example.   (04 Marks)

(c) Explain below relational concepts with aid of a simple table structure.   (10 Marks)

    a. Candidate Key

    b. Primary Key

    c. Alternate Key

    d. Foreign key

    e. Composite Primary Key

Question 04

(a) List four (04) data types supported by SQL.   (04 Marks)

(b) Explain the use of "DINTINCT" keyword in SQL select statement with an example.

(c) Write SQL statements to create below two tables. Assign appropriate data types, primary and foreign keys.   (06 Marks)

                                                  (10 Marks)

    a. STUDENT (StudentID, Name, Address, DoB, Email)

    b. Enrollment (EnrollmentID, StudentID, Course)

Question 05

(a) What is the meaning of redundancy in Database System?   (04 Marks)

(b) What is the purpose of "Normalization".   (04 Marks)

(c) Explain three (03) Normal forms (INF, 2NF and 3NF) in your words.   (12 Marks)

Question 06

A furniture company uses a number of parts to produce furniture. Each part has a unique ID and has a description. Any number of workers may be assigned to work together to produce one furniture. Any number of parts may be used to produce one furniture. Each furniture is identified by furniture Id and name. Number of furniture in the stock is also maintained. Each worker is identified by Employee Id and Name.

    (a) Draw an Entity Relationship Diagram to model above scenario using correct notations showing:

        i.   The entity types with corresponding attributes

        ii.   Relationships between those entities

State any assumption you make to fill any gap in the above scenario.

                                                             (20 Marks)

Question 07

A company is using following table to record details of invoices, products sold and vendors supplying those products. This table has a composite primary key (Invoice_No, Product_No) You can assume that any invoice may refer to more than one product.

Invoices (Invoice_No, Product_No, Sales_Date, Product_Description, Vendor_Code, Vendor_Name, Quantity_Sold, Product_Price)

    (a) Identify any partial dependencies and convert the above table into Second Normal form (2NF).   **(10 Marks)**

    (b) Identity any transitive dependencies and transform tables that are in 3rd Normal Form. (3NF)

                                                                   (10 Marks)

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

CINEC
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Beyond A Graduate

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date of the examination: **2021.11.26**
Candidates could be disqualified if you violate examination rules.	Duration of the examination = 03 hours
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	Total Marks = 100 marks

Answer five (5) questions including Question 01

Question 01 – Compulsory question.

(i)	Define the term Database Management System.	(01 mark)
(ii)	List four (4) applications of DBMS.	(02 marks)
(iii)	Who is DBA? What are the responsibilities of DBA?	(03 marks)
(iv)	What is a Data Model? List four different types of Data Models.	(06 marks)
(v)	Define following relational terms	

        a. Domain

        b. Record

        c. Attribute

        d. Foreign Key   (08 marks)

(Total marks =20)

Question 02

    (i) What is a data dictionary?

                (02 marks)

    (ii) What are the advantages of using DBMs? (list down four (4) advantages)   (04 marks)

    (iii)List down four (4) disadvantages of File Processing System.   (04 marks)

    (iv)Briefly explain logical data independency and physical data independency using ANSI/SPARC
       architecture.

                (10 marks)

(Total marks =20)

Question 03

Assume that you are given the following requirements to design a database system for football club.

    a. The football club has many teams

    b. Each team has a unique identifier, name, location, coach, captain and number of players.

    c. Each player could belong to only one team and has a unique identifier, name, DoB, joined year, position, skill level and injury record.

    d. Team captain also a player.

    e. Teams participating for matches and need to record details about each match (date, two teams, score) about games. two teams will participate for a single match.

    f. Each match will have at least two referees. Each referee has an ID (unique identifier), name, DoB, years of experience. One referee is the main referee and the other one is assistant referee.

    (i)   Draw an ER Diagram to represent above requirements using correct notations. Identify and assign correct cardinalities, underline the key attribute for each entity and clearly mention the assumptions you made.

                (20 marks)

(Total marks =20)

Question 04

(i)   What is Normalization?   (02 marks)

(ii)   What is a Normal Form?   (02 marks)

(iii) Briefly explain functional dependency using an example.   (04 marks)

(iv) Explain briefly the first three normal forms in normalization process. (12 marks)

(Total marks =20)

Question 05

(i)   Briefly explain below relational terminologies with correct diagram notations

    a. Week Entity

    b. Link entity

    c. Composite attributes

    d. Recursive relationship   (03 marks * 4)

(i)   Convert below ER diagram into set of relations considering relationship cardinalities. Write the relation details in below format.   (8 marks)

RELATION NAME {Primary Key, Attribute 1, Attribute 2….., Foreign Key}
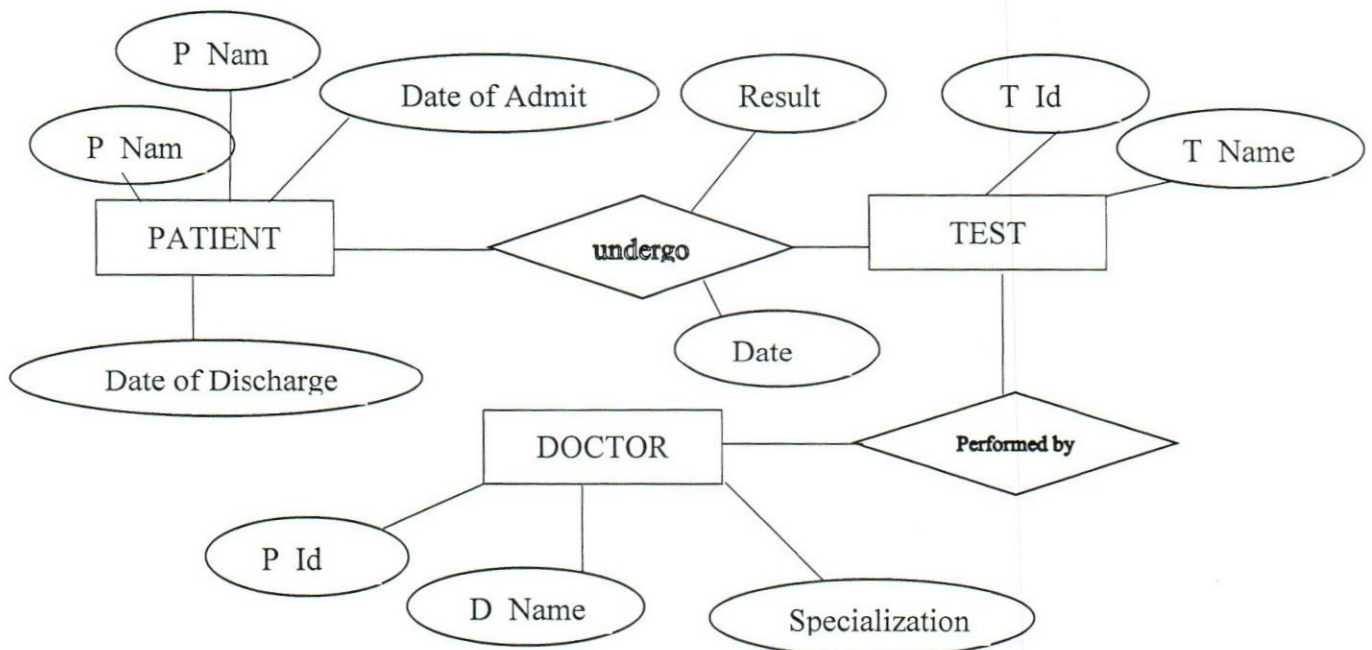
(Total marks =20)

Question 06

Consider the following relational tables (Book and Publisher) and answer the questions below.

Book Table

B_Id	Title	Author	Year	P_Id
201	Harry Potter	J.K Rolling	2001	5
208	Anne of Green Gables	L.M. Motegomary	1908	2
210	HTML for Dummies	Stephen James	1995	4
215	Tale of Two Cities	Chares Dickens	1859	1
218	Oliver Twist	Chares Dickens	1837	1
203	Sniper	Stephen James	2001	5

Publisher Table

P_Id	P_Name	City
1	Manchester	London
5	Addison Wesley	Boston
3	Pearson	New York
2	L.C Page & Co.	Canada
4	Amazon	New York

(i) Write SQL (DDL) statements to create above two tables. Select and assign most suitable data types for each field. Assign primary and foreign keys as appropriate. (10 marks)

(ii) Write SQL queries for below situations.

a. To list all books (book Id and Book Name) written by Charles Dickens. (05 marks)

b. To list all books published by Amazon (Display Publisher ID, Publisher Name and Book Title. (05 marks)

(Total marks =20)

Question 07

Answer the questions using below table.

S_Id	S_Name	S_City	P_No	P_Name	Duration	S_Date	E_Date
S005	Thusitha	Colombo	P1	SIMS	6 months	2021-10-30	2022-4-30
S010	Hemal	Negombo	P10	Robo Arm	1 year	2020-08-10	2021-08-10
S010	Hemal	Negombo	P12	ERP 1	8 months	2021-10-15	2021-6-15
S008	Himasha	Gampaha	P8	Parking System	4 months	2021-04-30	2021-08-30
S002	Kosala	Galle	P15	ERP 3	8 months	2021-10-10	2022-6-10
S008	Himasha	Gampaha	P20	E-Commerce 2	3 months	2021-10-15	2022-1-15

(i)   Above table is vulnerable to have of update anomalies. Explain insert and delete anomalies using the data given in above table.   (08 marks)

(ii)   What is the current Normal form of above table?   (02 marks)

(iii)   Normalize the table up to 3rd Normal Form (3NF). Clearly show your steps with functional dependencies and table structures.   (10 marks)

(Total marks =20)

Question 08

Briefly explain following terms   (04 marks *5)

    a. Foreign Key
    b. Legacy Data
    c. Domain Integrity
    d. Derived attribute
    e. Transitive Dependency in Normalization

(Total marks =20)

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

END SEMESTER EXAMINATION QUESTION PAPER
CODE - QP
Approved for Quality Management System

EDUCATION & TRAINING COURSE: B.ED (HONOURS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851
YEAR I – SEMESTER I
ICT FOR EDUCATION - BDP3032

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date of the examination: 2021.11.23
Candidates could be disqualified if you violate examination rules.	Duration of the examination = 03 hours
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	Total Marks = 100 marks

Total number of pages in the question paper is two (02)
There are eight (08) questions in the examination paper
Including the Compulsory question answer any three questions only

Question 01 (Compulsory)
Indicate the Formulas and calculated figures for the **Red Colour Question Marks (?)**
Note – The black colour Question mark is required to answer the red colour question marks

	A	B	C	D	E	F
1						
2		Items	Per Item Price	Items Sold	Total Sale	
3		A	50	100	?	
4		B	60	110	?	
5		C	70	120	?	
6		D	80	130	?	
7		E	90	140	?	
8		Totle Items Sold and Total Sale		?	?	
9		Average of the Total Sales vs Items Sold			?	
10		No. of Items			?	
11		Minimum Total Sale			?	
12		Maximum Total Sale			?	
13						
14						

(Total marks =25)

Question 02
(i) What is a Peripheral Device? Explain with examples   (10 marks)

(ii) Explain the difference between magnetic hard disk drive and a solid state hard disk drive?   (15 marks)

(Total marks =25)

Question 03
(i) Indicate the memory measurements of a computer?   (10 marks)

(ii) How is a Mouse different from a Trackball?   (15 marks)

(Total marks =25)

Question 04
(i) How is a Touchpad different from a Light Pen?   (10 marks)

(ii) Discuss the difference between PSTN and VOIP   (15 marks)

(Total marks =25)

Question 05
(i) How is a Touchpad different from a Touch Screen?   (10 marks)

(ii) What do you mean by formatting a disk? Explain in detail   (15 marks)

(Total marks =25)

Question 06
(i) How is an Operating System software different from Application Software?   (10 marks)

(ii) How is a Printer different from a Plotter? Discuss in detail   (15 marks)

(Total marks =25)

Question 07
(i) Explain Group Work   (10 marks)

(ii) How is Intranet different from Extranet. Explain through diagrams   (15 marks)

(Total marks =25)

Question 08

(i) What is Internet?   (10 marks)

(ii) How is LAN different from WAN. Discussion with diagrams are required   (15 marks)

(Total marks =25)

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

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FINAL EXAMINATION QUESTION PAPER
CODE - QP
Approved for Quality Management System

Faculty	Department / Section/Division
Humanities and Education	Education

EDUCATION & TRAINING COURSE: BACHELOR OF ARTS IN ENGLISH
COURSE CODE: LC – 0851
SUBJECT: *GENERAL ENGLISH* – BDP3022
YEAR I – SEMESTER I

INSTRUCTIONS TO CANDIDATES	Date: 2021.11.22
Answer all the questions.	Duration of the examination = 03 hours
Candidates could be disqualified if you violate examination rules.	Total marks = 70
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	

INDEX NUMBER: ....

For Office Use Only

Question No:	1	2	3	4	5	6	Total Marks /100	Assig 20%	Total 100%	Signature
For Scrutinizer's Use Only (marks)										
For Moderator's Use Only (marks)										

Question 01

Read the passage and answer the questions given below. (15 Marks)

Different students like or dislike different subjects. However, there is one thing in common for all of them: the role of the teacher in these 'likes' and 'dislikes'. It is very hard for a student to succeed in learning a subject if he or she doesn't like the person who teaches it.

To be sure that students are going to like a teacher the school wants to hire, the principal of one high school decided to try a new way of choosing teachers. In order to be accepted, the candidate has to be interviewed twice – first by the principal and then by the students' committee.

Gabi Levy explains the reason for this double interview: "We, the students, want to know what kind of person our future teacher is because he or she will teach us and not the principal." Another student adds: "It is great that our school allows us to make important decisions that influence our school life."

The principal, Ronen Dan, agrees with his students: "The students want to know whether the candidate answers their criteria, and the administration has its own requirements as well. We discuss the results of each interview together and decide who can be accepted. I hope that now there will be fewer conflicts and more understanding between students and teachers in our school. This experiment teaches kids to take responsibility for their choice. If they approve of a teacher, they cannot complain that his or her requirements are unfair."

Part I

(i.) What is the connection between the teacher's personality and a student's success? (2 marks)

....
....

(ii.) What made the school principal try a different approach in finding new teachers? (2 marks)

....
....

(iii.) Who interviews potential teachers? (2 marks)

....

(iv.) What is the purpose of the double interview, according to students? (2 marks)

....
....

(v.) How do students feel about their school because of this experiment? (2 marks)

....
....

(vi.) What goal does the principal want to achieve by letting students take part in a job interview?

(02 marks)

....
....

(vii.) What is your opinion on giving students a chance to making decisions regarding their teachers? Explain giving example. (03 marks)

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

Question 02 (15 Marks)

Fill in the blanks with the most suitable verb form.

I (1) .... (*went, had gone, was going*) to a meeting of our literary society last night. We (2) .... (*were having, had, have*) the most interesting speaker, a man by the name of Weston, who (3) ....(*wrote, has written, had written*) several books. He is in fact the person who (4) .... (*had been invited, invited, was invited*) to address the society on the occasion of our fifth anniversary, but unfortunately he (5) ....(*be ,is, was*) ill at that time. He (6) .... (*overworked, has been overworking, had been overworking*) and as a result his doctor (7) ....(*order, ordered, was ordering*) him to take a complete rest for at least three months.

However, he has recovered from his illness now and last night he (8) .... (*had been telling, told, was telling*) us about his most recent work. It is a book about the famous traveler, Colonel Manning, who (9) .... (*is living, lived, was living*) in India in the early part of this century. Weston (10) .... (*had said, said, had been telling*) that for years he (11) ....(*had planned, had been planning, was planned*) to write a book about Colonel Manning but apart from a collection of letters and notes, which the family had provided him with, he, (12) ....(*would not have, wasn't having, did not have*) much material.

Then one day he (13) .... (*get, got, had got*) a letter from one of Colonel Manning's nephews, saying that his uncle had kept a diary. Weston at once went round to see Manning's daughter to enquire about them. She (14) .... (*is not, was not, may not*) aware that her father had kept a diary but she suggested that he (15) .... (*look, will look, should look*) in the attic, where some of his boxes were stored.

Question 03 (05 Marks)

Correct the mistakes and re-write the sentences given below.

I. She is always tells lies.

....

II. I do not know where is she.

....

III. The school life are the golden time period of learning.

....

IV. Neither Ruwan nor Sharni have handed over their projects.

....

V. I does not know whether he will join the class or not.

....

Question 04 (10 marks)

Connect each pair of sentences into one using the following conjunctions and rewrite them in the space given.

(if, after, but, unless, as)

1. Our students may work locally. They connect with students around the world.

....

2. The lesson was very interesting. The students expected.

....

3. You work hard. You will receive a good grade.

....

4. Students won't be able to be good citizens. Teachers help students inculcate good qualities.

....

5. We had discussed project on the phone. I wrote down what we had decided.

....

Question 05 (10 marks)

Analyze the following paragraph and answer the questions given below.

The Internet has become immensely important for three main reasons. *First*, it enables people to access more information than ever before. *That is*, people can read books, newspapers, or magazines online and for free. *Second*, thanks to the Internet, people can communicate with others in every part of the world via social networking websites like Facebook, WhatsApp, Twitter, Skype, Viber, Snapchat and LinkedIn. *Third*, the Internet is a perfect tool to study and get certificates from well-known top universities. *In other words*, now more than ever, anyone can do free online courses in a variety of subjects. *In short*, the Internet is, beyond doubt, an essential and valuable tool nowadays.

I. What is the topic sentence?

II.   What is the topic and controlling idea of the topic sentence?

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III. What are the supporting sentences?

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IV.   What is the concluding sentence?

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V.   What are the linking words?

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Question 06   (15 marks)

Write a paragraph on "The internet plays a very vital role in the field of modern education."

- Before writing the paragraph, organize your structure by answering the questions given below.

Part A   (05 marks)

I.   What is your topic sentence?

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II.   What is the topic and controlling idea of your topic sentence?

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II.   What is the topic and controlling idea of the topic sentence?

III.   What are the supporting sentences?

IV.   What is the concluding sentence?

V.   What are the linking words?

Question 06   (15 marks)

Write a paragraph on "The internet plays a very vital role in the field of modern education."

- Before writing the paragraph, organize your structure by answering the questions given below.

Part A   (05 marks)

I.   What is your topic sentence?

II.   What is the topic and controlling idea of your topic sentence?

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END SEMESTER EXAMINATION QUESTION PAPER
CODE - QP
Approved for Quality Management System

EDUCATION & TRAINING COURSE: BACHELOR OF EDUCATION (HONOURS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851
YEAR I – SEMESTER I
MATHEMATICS FOR COMPUTING - BDI3033

Faculty	Department / Section/Division
Humanities & Education	Education

INSTRUCTIONS TO CANDIDATES	Date of the examination: 2021.11.25
Candidates could be disqualified if you violate examination rules.	Duration of the examination = 03 hours
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	Total Marks = 100 marks

Answer five (05) questions only

Question 01

Given that

$$\frac{dy}{dx} = 3x^2 + 5x - 1$$

(i) Find the x-coordinate of the stationary points. (5 Marks)

(ii) Find $\dfrac{d^2y}{dx^2}$ (3 Marks)

(iii) Hence determine the nature of stationary points. Clearly mention the steps and the answer. (6 marks)

(iv) State the set of values of x in which the curve concaves up. (3 marks)

(v) State whether the curve increases or decreases when x < -2 by showing the steps clearly. (3 marks)

(Total marks =20)

Question 02

(i)   Solve: $3^{2x+1} = \dfrac{1}{81}$ (4 Marks)

(ii)   Express as a single logarithm: (5 marks)

$$\ln(x + 1) - 2\ln(x + 1) + \ln x$$

(iii) Differentiate the following with respect to x.

      a) $y = 2^x + 2^{x^2}$ (5 marks)

      b) $y = \ln(2x + 1)$ (2 marks)

      c) $y = 3xe^x$ (4 marks)

(Total marks =20)

Question 03

(i) Find   (8 marks)

$$\int \left(5e^x + \frac{2}{x} + x^3\right) dx$$

(ii)   A curve passes through the point (-3, 2) and satisfies $\dfrac{dy}{dx} = 6x^2 + 4x + 1$

Find the equation of the curve.   (12 marks)

(Total marks =20)

Question 04

(i) Convert the following angles into radians.   (4 marks)
      a) 540^0 b) 720^0

(ii) Convert the following angles into degrees.   (4 marks)
      a) $3\pi/4$ b) $7\pi/9$

(iii)Find the length of an arc where the radius of the circle is 14 cm and angle subtended at the centre is 3.5 cm.   (2 marks)

(iv)Prove:

$$\frac{\sin^2 x + \cos^2 x}{\sin^2 x - \cos^2 x} = -\sec 2x$$

a) $(\sin x - \cos x)^2 + (\cos x + \sin x)^2 = 2$
        (5 marks)

b)
      (5 marks)

(Total marks =20)

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Question 05

(i) Give an example for each of the following matrices.   (3 marks)
   a) Square matrix
   b) Symmetric matrix
   c) Diagonal matrix

(ii) Given that;

$$A = \begin{pmatrix} 2 & 3 \\ -1 & 0 \end{pmatrix} \text{ and } B = \begin{pmatrix} 1 & 2 \\ -1 & 4 \end{pmatrix}$$

Calculate;

   a) A + 2B   (3 marks)
   b) AB   (4 marks)

(iii) Find the inverse of the matrix;   (10 marks)

$$A = \begin{pmatrix} 2 & -3 & 1 \\ 2 & 0 & -1 \\ 1 & 4 & 5 \end{pmatrix}$$

(Total marks =20)

Question 06

Solve the pair of simultaneous equations;

$$2x + y = 12$$
$$-3x + y = 2$$

using

   (i) The method of elimination   (5 marks)
   (ii) The Cramer's rule   (5 marks)
   (iii) Gaussian elimination   (10 marks)

(Total marks =20)

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

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FINAL EXAMINATION QUESTION PAPER

CODE - QP
Approved for Quality Management System
EDUCATION & TRAINING COURSE- BACHELOR OF EDUCATION (HONS) IN INFORMATION TECHNOLOGY
COURSE CODE:LC–0851
YEAR I – SEMESTER I
INTRODUCTION TO PROGRAMMING - BDI3014

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date: 2021.11.24
Total Marks = 100	Duration of the examination = 03 hours
	Candidates could be disqualified if you violate examination rules.
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.

Important:

- **Candidate should answer only for 5 Questions, from given questions.**

- **Create a new file folder in Desktop** and rename it by giving your **Full name and the Registration Number.**
  Ex: **Netmini_Fernando__113456.**

- **You need to save all your codes inside that folder.**

- <u>**Write the codes in your answer sheets as well as instructed in questions.**</u>

Question 01

1. Briefly explain "Computer Program" with an example. (05 Marks)

2. Develop a Pascal Program to print " It's Cold Outside". Write the pascal code in answer script as well.

   (15 Marks)

   (Total 20 Marks)

Question 02

Draw a **Flow Chart** to input Unit Price and Quantity and to Print the Total price.
(20 Marks)

Question 03

a) What is "Object Oriented Methodology". Explain.

   (04 Marks)

b) Explain meanings of following terms. You can use diagrams in your explanations.

   I.   Object

   II. Class

   III. Encapsulation

   (02*3= 6 Marks)

c) Draw a Class called "Employees", and write 5 attributes and 5 methods for that..

   (10 Marks)

   (Total 20 Marks)

Question 04

Develop a pascal program to print all ODD numbers starting from 1 and to 50. Write the pascal code in the answer script as well.

(20 Marks)

Question 05

Develop a Pascal **procedure** to input two integers, and to output the Average of two integers . Finally, print the average by using a **Global variable** . Write the pascal codes in your answer script as well.   (20 Marks)

Question 06

Develop a Pascal program to create an Array with **having 5 Elements**. Array has to be an Integer type one. Insert proper values to the array and calculate the **Sum** of all values inserted in the array. Write the pascal codes in your answer script as well.
(20 Marks)

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

CINEC
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<u>END SEMESTER EXAMINATION QUESTION PAPER</u>
CODE - QP
Approved for Quality Management System

EDUCATION & TRAINING COURSE: B.ED (HONOURS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851
YEAR I – SEMESTER I
INFORMATION SYSTEMS AND DATA MODELLING – BDI3023

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date of the examination: 2021.04.09
Candidates could be disqualified if you violate examination rules.	Duration of the examination = 03 hours
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	Total Marks = 100 marks

Answer five questions only

Question 01

(i)   What do you mean by meta data?   (02 marks)

(ii)   What is DBMS (Database Management System)?   (02 Marks)

(iii)   Write four (04) advantages and four (04) disadvantages of DBMS.   (08 Marks)

(iv)   Briefly explain below terms used in RDBMS's

   a. Data & Information

   b. Data Redundancy

   c. Domain Integrity

   d. Update Anomaly   (08 marks)

(Total marks =20)

Question 02

    (i) Briefly explain below various keys in RDBMS's using examples   (08 marks)

        a. Candidate Key

        b. Primary Key

        c. Foreign Key

        d. Composite key

    (ii) Explain below terms using correct notation (symbol)   (12 marks)

        a. Strong Entity and week entity

        b. Single valued attribute and multi valued attribute

        c. Derived attribute

        d. Composite attribute

(Total marks =20)

Question 03

    (i)   Draw an ER diagram for following scenario.   (20 marks)

This is regarding customers transactions in an electric items shop. A customer can purchase many items from the shop.

An item is identified by Item ID and has an item name, price, brand and description.

Customers are identified by customer Id. Name, address and Phone number will also store in the database.

Purchase details also maintain in the database ie. Quantity, purchase date

State any assumption/s you made. Marks will be awarded only if you have used correct notations.

(Total marks =20)

Question 04

(i)   Define the term Normalization. Briefly explain the importance of Normalization in Database Design Process.   (05 marks)

(ii)   Briefly explain First, Second and Third Normal forms (1NF, 2NF, 3NF) using an example.
         (15 Marks)

(Total marks =20)

Question 05

(i)   Write 5 responsibilities of DBA (Database Administrator)?   (05 marks)

(ii)   Security is an essential part for a Database System. What measures you could take to safeguard a database system? (Mention 5 security implementations)   (05 marks)

(iii)   Briefly explain each level (view) of ANSI-SPARC architecture using a diagram.
                                                                                    (10 marks)

(Total marks =20)

Question 06

Provide answers for the questions below using following relational schema. Key attributes have bolded and underlined.

Student (**Student_Id**, Name, Address, Email, Telephone, Status, Course_Code, Module_Code)
Course (**Course_Code**, Course_Name, Course_Description)
Module (**Module_Code**, Module_Name, Module_Description)
Student_Grade (**Student_ID, Module_Code**, Mark, Grade)

(i)   Write correct SQL statement to create Student table. Assign primary and foreign keys appropriately.   (08 marks)

(ii)   Write following queries using SQL   (12 marks)

         a.   Display all course details from the database.

b. List all "part time" students in the database.

c. List student Id, Student Name and Address who doesn't have an Email.

d. List student Id, Student Name and Course Name of all MSc courses. (Hint: Course Name starts with MSc and proceeded by several other characters)

e. Update Telephone number of Shehan Perera (Student Id = 6008) as 0771234567.

f. Remove Module table from the database. (Hint: Drop)

(Total marks =20)

Question 07

Following table shows the details about films showed in different Cinemas and their charges. Each cinema has a manager who is recording the amount of money taken whilst the film is shown at that location.

F_No	F_Name	C_No	C_Name	C_Location	M_No	M_Name	Charge (Rs)
102	Titanic	10	Majestic	Colombo	02	Perera	10,000/-
		40	Sigiri	Kandy	08	Narada	8,000/-
		30	Public	Gampaha	06	Senani	15,000/-
123	Pooja	60	Gemunu	Anuradhapura	07	Silva	5,000/-
		10	Majestic	Colombo	02	Perera	7,500/-
108	Ashoka	80	Royal	Jaffna	05	Mani	10,000/-
		10	Majestic	Colombo	02	Perera	20,000/-
		30	Public	Gampaha	06	Senani	9,500/-

F_No – Film Number, F_Name – Film Name, C_No – Cinema Number, C_Name – Cinema Name, C_Location – Cinema Location, M_No – Manager Number, M_Name – Manager Name,

(i)   Identify the repeating groups in the above relation and convert the table in to first normal form (1NF) by removing repeating groups. Draw the result table and mention the primary key.   (05 marks)

(ii)   Identify the functional dependencies in the table and normalize table up to third normal form (3NF). Write the functional dependencies and show the normalization stages.

(15 marks)

(Total marks =20)

Question 08

Briefly explain following terms   (04 marks *5)

a. Weak entity

b. Data Redundancy

c. Relationship cardinality

d. Data Warehouse

e. Encryption

(Total marks =20)

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

CINEC
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END SEMESTER EXAMINATION QUESTION PAPER
CODE - QP
Approved for Quality Management System

EDUCATION & TRAINING COURSE: B.ED (HONOURS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851
YEAR I – SEMESTER I
INTRODUCTION TO PROGRAMMING – BD13014

Faculty	Department / Section/Division
Humanities and Education	*Education*

INSTRUCTIONS TO CANDIDATES	*Date of the examination:* 2021.04.07
Candidates could be disqualified if you violate examination rules.	*Duration of the examination = 03 hours*
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	*Total Marks = 100 marks*

- There are EIGHT (08) questions in this paper.
- This paper contains Four (04) pages.
- Excluding the Compulsory question-answer any four (04) 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.

Question 01   (Compulsory)   (20 Marks)

(i) **Control Structures** are just a way to specify flow of control in programs. Briefly explain three (03) control structures used in Algorithms.   (6 Marks)

(ii) Write an algorithm, to input three (03) different numbers. Then multiply the two (02) larger numbers together and output the result. Use the variables: *Number1*, *Number2* and *Number3* for your numbers and *Answer* for your result.   (6 Marks)

(iii) Draw a flow chart to find the sum of five (05) numbers using a loop.   (8 Marks)

Question 02 (20 Marks)

(i) What is meant by global and local variable, explain with example? (3 Marks)

(ii) The following diagram shows four (04) data structures and four (04) descriptions. Draw a line to connect each data structure to the correct description. (4 Marks)

Data structure

Constant

Array

Table

Variable

Description

A collection of related data

A value that can change whilst a program is running

A value that never changes whilst a program is running

A series of elements of the same data type

(iii) Five data types and five data samples are shown below. Draw a line to link each data type to the correct data sample. (5 Marks)

Data type

Integer
Real
Char
String
Boolean

Data sample

'a'
2
2.0
True
"Twelve"

(iv) Classify the following as a relational operation, an arithmetic operation, or a logical operation. (8 Marks)

a. X+Y
b. J <= 10
c. K=10 or M= 12
d. T * N

Question 03   (20 Marks)

(i) A store uses the following policy to award discount. If the customer purchases products costing more than $2000 she is given a discount of 20%, otherwise she is given a discount of 4.25%. Write a program to compute the discount a customer will receive based on the purchase she makes.   (8 Marks)

(ii) Write a program in pascal language that allows user to enter a student's name and mark obtained in a Maths examination. The program should prompt user to enter name and mark, check that mark is in the range 0<= mark <= 100 otherwise asks for entering the mark again. The program outputs the student's name and grade. Grades are awarded according to the following grade boundaries.

80 <mark <= 100 grade A
60 <mark <= 80 grade B
40 < mark <= 60 grade C
mark <= 40 failed   (12 Marks)

Question 04   (20 Marks)

(i) Pascal provide two kinds of subprograms. What are those subprograms and explain them.   (4 Marks)

(ii) Create a user defined function coneVolume() that will ask the user for the radius(r) of a circle and height, then print out the volume of the cone. (V=PI * r^2 * h/3) PI=3.14

(16 Marks)

Question 05   (20 Marks)

(i) Write a statement to declare the variable as **mark**.   (2 Marks)

(ii) Distinguish between syntax errors and logic errors using suitable example.   (4 Marks)

(iii) Which of the following are valid variable names?   (6 Marks)
   a) 1age
   b) _age
   c) Age_*

(iv) Create a trace table to determine the output of the following algorithms: (8 Marks)

Step 1: x ← 3
Step 2: for i ← 1 to 10
        set x = x + 6
        endfor
Step 3: write x

Question 06   (20 Marks)

(i) What is the use of arrays?   (4 Marks)

(ii) Write a program, using loops, to print total marks and average of six subjects that have been stored in an array.   (16 Marks)

    a. Arr [45,56,23,56,78,65]

Question 07   (20 Marks)

(i) What are Constructors and Destructors in Pascal?   (4 Marks)

(ii) Explain a "**class**" using suitable example.   (6 Marks)

(iii) Draw a class diagram, which consists of all the classes in your system, their attributes and operations, relationships between the classes, multiplicity specifications and other model elements that you find appropriate.   (10 Marks)

Consider the world of libraries. A library has books, videos, and CDs that it loans to its users. All library material has an id# and a title. In addition, books have one or more authors, videos have one producer and one or more actors, while CDs have one or more entertainers. The library maintains one or more copies of each library item (book, video or CD). Copies of all library material can be loaned to users. Reference-only material is loaned for 2hrs and cannot be removed from the library. Other material can be loaned for 2 weeks. For every loan, the library records the user, the loan date and time, and the return date and time. For users, the library maintains their name, address and phone number.

Question 08   (20 Marks)

(i) Write short notes on the following   (04 Marks * 05)

    a. Pascal programming language
    b. While –do loop
    c. Procedure
    d. Array
    e. Object

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

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<u>END SEMESTER EXAMINATION QUESTION PAPER</u>
CODE - QP
Approved for Quality Management System

EDUCATION & TRAINING COURSE: B.ED (HONOURS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851
YEAR I – SEMESTER I
ICT FOR EDUCATION– BDP3032

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date of the examination: 06/4/2021
Candidates could be disqualified if you violate examination rules.	Duration of the examination = 03 hours
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	Total Marks = 100 marks

Answer five questions only

Question 01

(i)	Explain 'RAM' and 'ROM'	(05 marks)
(ii)	Describe the 'touchpad' through an example	(05 marks)
(iii)	Explain the determining 'factors' when purchasing a Computer?	(10 marks)

(Total marks =20)

Question 02

(i)	Can a 'Floppy disk' carry more data than a 'DVD'? Briefly explain the answer	
		(05 marks)
(ii)	Explain 'Internet'	(05 marks)
(iii)	How is a 'PDA' different from a 'Main Frame Computer'	(10 marks)

(Total marks =20)

Question 03

(i)	What is 'Microsoft Access'? How is it useful for humans?	(05 marks)
(ii)	What is a 'Query' in Microsoft Access?	(05 marks)
(iii)	How is a 'Primary key' different from a 'foreign key' in Microsoft Access?	(10 marks)

(Total marks =20)

Question 04

(i)	How is 'MS PowerPoint' useful to students?	(05 marks)
(ii)	What is 'Microsoft Excel'? How is it useful for humans?	(05 marks)
(iii)	Through a diagram explain 'Database'	(10 marks)

(Total marks =20)

Question 05

(i)	Explain different 'Operating Systems'	(05 marks)
(ii)	Explain the use of a 'GUI'	(05 marks)
(iii)	What is 'CBT'? Explain how it is useful for Education	(10 marks)

(Total marks =20)

Question 06

(i)	What is a 'Computer'? Explain in detail	(05 marks)
(ii)	What is a 'CPU'? Explain the operation of it	(05 marks)
(iii)	What is 'Quantum Computing'? How is it useful for the modern world?	(10 marks)

(Total marks =20)

Question 07

(i)	Explain the 'Memory Measurements'	(05 marks)
(ii)	What is 'PSTN'? Explain in detail	(05 marks)
(iii)	Explain 'Server-Client' Architecture	(10 marks)

(Total marks =20)

Question 08

(i)	What is 'Intranet'?	(05 marks)
(ii)	What is 'Extranet'?	(05 marks)
(iii)	How is a 'LAN' different from a 'WAN'	(10 marks)

(Total marks =20)

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

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FINAL EXAMINATION QUESTION PAPER

CODE-QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE- BED (HONOURS) IN INFORMATION TECHNOLOGY *Degree*

CODE: LC–0851

SUBJECT: General English, BDP3022

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date: 2021.04.09
Answer all Questions.	Duration of the examination = 03 hours
	Candidates could be disqualified if you violate examination rules.
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.

INDEX NUMBER:

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For Office use Only

Question No:	1	2	3	4	5	6	7	8	Total Marks	%	Signature
For Scrutinizer's Use Only (marks)											
For Moderator's Use Only (marks)											

Question 01 **(20 marks)**

Read the following passage and answer the questions given below.

1. Did you know that some people do not do their reading assignments? It is shocking, but it is true. Some students do not even read short texts that they are assigned in class. There are many reasons for this. They may be distracted or bored. They may be unwilling to focus. They may be unconfident readers. Whatever the reason, it has to stop today. Here is why.

2. Reading stimulates your mind. It is like a workout for your brain. When people get old, their muscles begin to deteriorate. They get weaker and their strength leaves them. Exercise can prevent this loss. The same thing happens to people's brains when they get older. Brain power and speed decline with age. Reading strengthens your brain and prevents these declines.

1

3. You can benefit from reading in the near-term too. Reading provides knowledge. Knowledge is power. Therefore, reading can make you a more powerful person. You can learn to do new things by reading. Do you want to make video games? Do you want to design clothing? Reading can teach you all this and more. But you have to get good at reading, and the only way to get good at something is to practice.

4. Read everything that you can at school, regardless of whether you find it interesting. Reading expands your vocabulary. Even a "boring" text can teach you new words. Having a larger vocabulary will help you better express yourself. You will be able to speak, write, and think more intelligently. What's boring about that?

5. Do not just discount a text because it is unfamiliar to you. Each time you read, you are exposed to new ideas and perspectives. Reading can change the way that you understand the world. It can give you a broader perspective on things. It can make you worldlier. You can learn how people live in faraway places. You can learn about cultures different from your own.

6. Reading is good for your state of mind. It has a calming effect. It can lower your stress levels and help you relax. You can escape from your troubles for a moment when you read, and it's a positive escape. The benefits of reading far outweigh those of acting like a doofus. So do yourself a favor: the next time you get a reading assignment, take as much as you can from it. Squeeze it for every drop of knowledge that it contains. Then move on to the next one.

Part A   **(10 marks)**

1. Which is **not** a reason given by the author why students fail to complete reading assignments?
   a. Students may be bored.
   b. Students may be distracted.
   c. Students may be unwilling to focus.
   d. Students may be tired.

2. Which best expresses the main idea of the third paragraph?
   a. Reading can benefit you.
   b. You can learn to program video games or design clothing by reading.
   c. You can learn amazing things and become a better person by reading.
   d. Knowledge is power.

3. Which best expresses the author's main purpose in writing this text?
   a. He is trying to persuade students to do their reading work.
   b. He is teaching people how to become better readers.
   c. He is explaining why people don't do their reading work.
   d. He is entertaining readers with facts about the mind and body.

2

4. Which of the following is **not** one of the author's main points?
    a. Reading broadens your perspective and makes you a better person.
    b. Reading is a relaxing activity with positive mental side effects.
    c. Reading helps you perform on tests and get into selective schools.
    d. Reading keeps your mind in shape and prevents losses due to age.

5. Which title best expresses the main idea of this text?
    a. *Reading: Good for the Mind in Many Ways*
    b. *Reading: The Key to a Successful Academic Future*
    c. *Reading: Improve Your Vocabulary While Being Entertained*
    d. *Reading: The Best Way to Improve Your Writing Skills*

Part B   **(10 marks)**

1. How does the brain get benefitted through reading? Explain in your own words.

2. 'Reading can widen your perceptions'. Do you agree with this statement? Give reasons for your answer.

3. Why does the author believe that reading boring or unfamiliar books can be helpful for readers? Explain.

3

00026

4. Why does the author describe reading as a "positive escape"? In what ways is reading positive? Use evidence from the text to support your response.

5. How has reading benefited you to improve your English?

Question 02   **(20 marks)**

Part A

Fill in the blanks selecting the suitable words from the list given below.

(button, better, video, miles, world, connect, communication, internet, decade, results)

The twenty-first century is known as the age of Information Technology. IT has evolved tremendously in recent (1)-------------------------- and had revolutionized the way humans (2)------------------------- and work. Everything from computers and the (3)---------------------------- to e-commerce and cellphones are the (4)---------------------------- of information technology. Advancements in technology and (5)----------------------- information systems provide lots of possibilities in (6)---------------------------- and connectivity. After the invention of the computer and the internet, the (7)---------------------------- has changed a lot. Just a press of a (8)------------------

4

----------- or a swipe can get you many things that you want. You can talk to those living (9)----------
------------------ away or see people in different countries through (10)--------------------------
conferencing. You can even buy groceries and food from websites, just by sitting at home. Sharing knowledge and gathering of information has become much easier, faster, cheaper, and enjoyable. All these are the greatest advantage of IT and it had made the world a better place to live in.

Part B
Fill in the blanks using a suitable word to make the paragraph meaningful.

Mark Zuckerberg was born on May 14, 1984, in White Plains, New York, the second of four children born to dentist Edward Zuckerberg and his wife, psychiatrist Karen Zuckerberg. Mark and his three (1)-------------------------, Randi, Donna, and Arielle, were raised in Dobbs Ferry, New York, a sleepy, well-to-do town on the eastern bank of the Hudson River.

Zuckerberg (2) ---------------------------- using and programming computers in middle school, with the active support of (3)------------------------------- father. Edward taught the 11-year-old Mark Atari <u>BASIC</u>, and then hired a software developer David Newman to give his son private lessons. In 1997 (4)--------------------------- Mark was 13, he created a computer network (5)----------------------
------- his family he called ZuckNet, which allowed the computers in his home and his father's dental office to communicate via Ping, a primitive version of AOL's Instant Messenger that came out in 1998. He also (6)------------------------------ computer games, such as a computer version of Monopoly and a version of Risk set in the Roman Empire.

Question 03 (20 marks)
Fill in the blanks with the correct form of the verb given within brackets.

Part A
We all want to see our kids going towards success which (1) .... (be) only possible through the good and proper education. Every parent (2) .... (tell) their kids from childhood about the importance of education in the life and all the advantages of education to (3) .... (make) their mind towards better study in the future. Make your kids and children habitual of writing essays, (4) .... (participate) in debates and discussion and many more skill enhancing activities in the schools or at home using such simple essays. We are here to help you all parents in making your kid's better future by providing simple essay on importance of education. Following importance of education essay are easily (5) .... (word) and given under various words limit especially for students. You can select anyone of these according to the class standard:

5

Better education is very necessary for all to go ahead in the life and get success. It (6) ……………….. (develop) confidence and helps building personality of a person. School education plays a great role in everyone's life. The whole education has been (7) ……………….. (divide) into three divisions such as the primary education, secondary education and Higher Secondary education. All the divisions of education (8) ……………….. (have) their own importance and benefits. Primary education prepares the base which (9) ……………….. (help) throughout the life, secondary education prepares the path for further study and higher secondary education prepares the ultimate path of the future and whole life. Our good or bad education (10) ……………….. (decide) that which type of person we would in the future.

Part B

Underline the correct verb form from the brackets.

Distance education (1) ……………….. (is, has, are) becoming more popular as more and more households (2) ……………….. (will obtain, obtain, obtains) personal computers. Many schools (3) ……………….. (have develop, has developed, have developed) the idea of the virtual classroom to a high degree. One instructor located at a central location (4) ……………….. (taught, teach, can teach) simultaneous classes in several satellite locations by simply using a video equipment. This (5) ……………….. (will become, has become, become) a reality through E-Learning. E-Learning (6) ……………….. (was, are, is) a type of Technology supported learning (TSL) where the medium of instruction is through computer technology. E-Learning can be CD-ROM based, Intranet-based or Internet-based. At the start, it mainly (7) ……………….. (is including, included, was including) text. But at present, video, audio and animation (8) ……………….. (is, was, are) largely used. Also, distance education facilities (9) ……………….. (are developing, developed, is developed) and this will help students (10) ……………….. (may experience, experience, to experience) novel learning experience inside and outside their classrooms.

Question 04   **(20 marks)**

Part A

Mahesh and Vimesh are at college. They are looking for their friend Leela. Fill in the blanks using the phrases given below.

(5 marks)

> Well, here comes…
> She may be practicing.
> It's a nice day.
> I thought…
> She might be having…

Mahesh: I can't find Leela. Have you seen her?

Vimesh: She might be in the music room. (1)……………………………………………...

Mahesh: No, she isn't there. (2)……………………………….. she might be with you.

Vimesh: (3)…………………………………………She may be on the lawn or
                      (4)…………………………..a coffee in the canteen.

Badma: No, I've looked there.

Vimesh: (5)………………………………Raja. He might know.

Part B
Fill in the blanks with suitable articles.
1. Are you coming to ……………… award ceremony next Saturday?
2. Amani bought ……………… new TV set yesterday.
3. I watched ……………… video you had sent me.
4. She was wearing ……………… ugly dress when she met him.
5. She is ……………… nice girl.
6. Do you want to go to ……………… restaurant where we first met?
7. Heshani is ……………… engineer.
8. He thinks that ……………… love is what will save us all.
9. I think ……………… man over there is very ill. He can't stand on his feet.
10. My niece is crazy about reading ……………… history books.

7

Question 04   (20 marks)

Write an essay of about 250 – 300 words on 'The use of technology in education'.

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FINAL EXAMINATION QUESTION PAPER

CODE -QP

Approved for Quality Management System

EDUCATION &TRAINING COURSE-ED (HONOURS) IN INFORMATION TECHNOLOGY COURSE

CODE:LC–0851

SUBJECT: PHILOSOPHICAL FOUNDATION IN EDUCATION

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date: 2021/04/05
Answer any five questions only.	*Duration of the examination = 03 hours*
Total Marks = 100	*Candidates could be disqualified if you violate examination rules.*
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.

Answer any FIVE questions only.

Question 1

Philosophy of Education is the branch of philosophy that addresses philosophical questions concerning nature, aims, and problems of education. As a branch of practical philosophy, its practitioners look both inward to the parent discipline of philosophy and outward to educational practice, as well as to developmental psychology, cognitive science more generally, sociology, and other relevant disciplines.

(i).   Name three major branches of philosophy and describe them in brief.   (8 Marks)

(ii).   Mention four main Educational Philosophical schools of thought and explain the fundamental of one school.   (12 Marks)

(20 Marks)

Question 2

Aims, goals, objectives and specific objectives are very important in any education programme. Further the basic competencies developed through education will contribute in achieving the national education goals.

(i)   Compare and Contrast aims, objectives and specific objectives in education.   (6 marks)

(ii)   Briefly explain any **three** national competencies in Sri Lanka.   (6 marks)

Page 1 of 3

(iii) "Competencies relating to personality development is very vital for teachers". Do you agree with the statement? Discuss. (8 marks)

(20 Marks)

Question 3

Learning is fundamental to the progress of humanity for economic prosperity, social well-being, personal fulfillment, and to help ensure a sustainable planet. A learning society regards the actual process of learning as an 'activity, not a place' – that is, it takes place outside of regular educational institutions, and is thus also de-centralized and deregulated, a tenet of globalization theory.

(i). Write the four main principles of the Learning Society. (8 Marks)
(ii). Mention the impacts of globalization on Education. (12 Marks)

(20 Marks)

Question 4

Value education cannot be included in the curriculum as an independent subject, nor can it be taught theoretically since this is a practical subject, which has to be taught in and out of school informally by which the conduct and behaviour of students will be guided to proper and right direction.

(i). Mention five types of Human Values and explain them in brief. (8 Marks)
(ii) Explain how teachers can contribute of inculcating values in students. (12 Marks)

(20 Marks)

Question 5

Some Education reforms in Sri Lanka took place in 1943, 1972, 1998, 2007. Among them Education reforms in 1943 can be identified as milestone in education system in Sri Lanka.

(i) What are the major reforms introduced by the Special Committee of Education Report 1943? (6 marks)
(ii) Briefly explain the Education Reforms in 2007. (6 marks)
(iii) Discuss the functions of Ministry of Education in Sri Lanka. (8 marks)

(20 Marks)

Question 6

World conference on Education Held Jomtein, Thailand in 1990 and Darkar 2000 and Six goals and targets were set to be achieved by target year 2015.

(i) What is "Education for All (EFA)" conference referring to? (4 marks)

(ii)   "Knowledge society is not only the internet, but it has been an essential pillar".
Elucidate the statement.   (8 marks)

(iii)   "Being a model is one of the skills in 21ˢᵗ century educator". Discuss.   (8 marks)

(20 Marks)

Question 7

Education used to be considered as a consumption activity however presently education is considered as an investment activity.

(i)   Discuss the difference between education as a consumption and education as an Investment in the discipline of education.   (6 marks)

(ii)   Explain the responsibilities assigned to developing countries when considering education and development.   (6 marks)

(iii) "Social Cohesion can be promoted through extra-curricular activities". Elucidate this statement.   (8 marks)

(20 Marks)

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

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FINAL EXAMINATION QUESTION PAPER
CODE -QP
Approved for Quality Management System

EDUCATION & TRAINING COURSE-ED (HONOURS) IN INFORMATION TECHNOLOGY COURSE
CODE:LC–0851
YEAR 2 -SEMESTER I
SUBJECT: COMPARATIVE EDUCATION

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date: 23/03/2021	
Answer any five questions only.	Duration of the examination = 03 hours	
Total Marks = 100	Candidates could be disqualified if you violate examination rules.	
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	

Answer any FIVE questions only

Question 1

There are various reasons as to why Comparative Education should be studied by prospective teachers and reformers of education in any country of the world.

(i) What is Comparative Education? (4 marks)

(ii) Explain **three** objectives of Comparative Education (6 marks)

(iii) Discuss the **five** advantages of prospective teachers studying Comparative Education. (10 marks)

Question 2

It is important to note that, behind every system of education, there are factors or features that determine or influence the system.

(i) Identify **four** factors that influence education systems of the world. (4 marks)

(ii) Briefly explain the factors that you have mentioned above in the question 2.(i) (8 marks)

(iii) "The type of education largely depends on the economic strength of any country". Discuss

(8 marks)

Question 3

Educational plural society is discussed under four areas as multilingual education, multi religious education, multiethnic education, and multi-cultural education.

(i) Define the term pluralistic society. (4 marks)

(ii) Explain **three** characteristics of pluralistic society. (6 marks)

(iii) Discuss the importance of multi religious education and multiethnic education. (10 marks)

Question 4

Globalization refers to the shrinkage of space as well as time, which brings together nations, cultures and economies in mutual respect for one another.

(i) As a teacher, how do you teach with global perspective? (6 marks)

(ii) Explain the features of internationalization in education. (6 marks)

(iii) Discuss the issues in internationalization in education. (8marks)

Question 5

The indigenous system of Education in ancient Sri Lanka was organized at three levels.

(i) Identify the characteristics of indigenous education (6 marks)

(ii) Discuss the impact of Portuguese education. (7 marks)

(iii) "Main objective of the Dutch education was to spread religion through education". Explain other major features in Dutch education. (7 marks)

Question 6

The British colonial education is very vital in the history of education systems of Sri Lanka.

(i) Discuss **three** recommendations of Colebrooke Commission. (6 marks)

(ii) Explain the role of the local government in education under the British Colonial policy. (7 marks)

(iii) Discuss the recommendations of 1943 Education Committee. (7 marks)

Question 7

According to research, contemporary issues in Sri Lankan education system are varied.

    (i)   Identify **five** contemporary issues in Sri Lankan education system   (5 marks)

    (ii) Discuss the reasons for school dropouts.   (7 marks)

    (iii) Analyze the issues relating to teacher recruitment in Sri Lanka   (8 marks)

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

CINEC
CAMPUS
Beyond A Graduate

FINAL EXAMINATION QUESTION PAPER
CODE - QP
Approved for Quality Management System

EDUCATION & TRAINING COURSE-ED (HONOURS) IN INFORMATION TECHNOLOGY COURSE CODE:
LC – 0851
YEAR 2 – SEMESTER I
SUBJECT: GUIDANCE & COUNSELLING BDP4082

Faculty	Department / Section/Division
Humanities and Education	Education

INSTRUCTIONS TO CANDIDATES	Date: 23/03/2021
Answer any four questions only.	Duration of the examination = 03hours
Total Marks = 100	Candidates could be disqualified if you violate examination rules.
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.

Answer any FOUR questions only.

1. a) Define the term 'Guidance'.   (5 marks)
    b) Define the term 'Counselling'   (5 marks)
    c) Distinguish between Guidance and Counselling referring to five main aspects.   (10marks)
    d) In Sri Lankan context, many teachers find it difficult to assume the role of a counsellor
       Briefly discuss.   (5 marks)

2. To play the role of counselor, the teacher is supposed to be equipped with necessary skills. UNESCO
    discusses those counselling skills under four main categories. Discuss.

                                                                                            (25 marks)

3. a) The objectives of school guidance and counselling can be categorized into four main domains.
       What are they? (Discuss)   (10 marks)
    b) Provide two examples of objectives for each of the domains.   (15 marks)

4. a) State two key principles that form the foundation of behavioral approach to counselling.

(5 marks)

b) Write a brief note on systematic desensitization as a technique used to bring about behavioral changes. (10 marks)

c) Discuss modelling as a technique used in behavioral approach to counselling. (10 marks)

4. a) One of the earliest forms of Cognitive Behavioural Therapy (CBT) is considered to be Rational Emotive Behavioural Therapy (REBT) developed by Albert Ellis. Discuss the irrational thoughts that are summarized into three categories in REBT and their behavioural and emotional consequences?

(13 marks)

b) A major aid in Cognitive Behavioural Therapy (CBT) is what Albert Ellis (1957) called the ABC Technique of Irrational Beliefs. Explain. Illustrate it with an example. (12 marks)

5. a) State the underlying principles of humanistic approach to counselling. (15 marks)

b) There are three key qualities that make for a good client centered counsellor/ teacher. Briefly discuss. (10 marks)

6. Write short notes.

a) Token Economies as a counselling technique (8 marks)

b) Five techniques of humanistic approach to counselling as outlined by McLeod (2015) (8 marks)

c) Common misconceptions about guidance and counselling (9 marks)

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

CINEC
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Beyond A Graduate

FINAL SEMESTER EXAMINATION QUESTION PAPER

CODE - QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: B.ED (HONOURS) IN INFORMATION TECHNOLOGY

COURSE CODE: LC – 0851

YEAR 2– SEMESTER I

Measurement & Evaluation in Education- BDP4093

Faculty	Department / Section/Division
Humanities and Education	Education Department

INSTRUCTIONS TO CANDIDATES	Date of the examination: 25/03/2021
Candidates could be disqualified if you violate examination rules.	Duration of the examination = 3 hours
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	Total Marks = 100 Marks

Answer only five Questions

Question 01

1.   The process of measurement is an essential component of the learning system. Measurement has more administrative utility in education than evaluation. An evaluation process is useful in modifying and improving the learning system and instructional procedure.

(i). What are the four principles of assessment? (8 Marks)

(ii) . What do you understand by the following terms? (12 Marks)

      a. Measurement

      b. Evaluation/Assessment

      c. Test

      d. Blueprint or Table of Specification

Question 02

There are two main types of assessment: summative assessment and formative assessment. At some level, both happen in almost all classrooms. The key to good assessment practice is to understand what each type contributes and to build your practice to maximise the effectiveness of each. Competency-based assessment is an example of a criteria-referenced assessment.

(i) Compare and contrast formative and summative assessment. (8 Marks)

(ii) Distinguish norm-referenced test from criterion-referenced test. (12 Marks)

Question 03

There are main steps of standardized test construction. These steps and procedures help us to produce a valid, reliable and objective standardized test.

(i) Name the main steps of standardized test construction. (8 Marks)

(ii) Explain test construction stages in brief (12 Marks)

Question 04

Classroom assessments can be designed primarily to guide teaching (formative purposes) or to support decisions made beyond the classroom (summative purposes).

(i) Explain the different types of Assessment followed in the classroom. (8 Marks)

(ii) How assessment will improve the teachers and schools? (12 Marks)

Question 05

Classroom assessment involves deciding how well students have learnt a given content or how far the objective we earlier set out had been achieved quantitatively. The assessment data so obtained can serve various educational functions in the school.

(i) How can classroom assessment and evaluation of students help with teaching and learning? (8 Marks)

(ii) Explain what your understanding by a table of specification and why teachers need it in test construction. (12 Marks)

Question 06

The reliability and validity of a measure is not established by any single study but by the pattern of results across multiple studies.

(i)   Explain the meaning and nature of the validity of measurement instrument. (8 Marks)

(ii)   Explain the meaning of reliability of measurement instruments. (12 Marks)

Question 07

The test data collection process consists of three basic steps: gathering necessary student work and other information, evaluating the results, and storing the data. The Gathering, Evaluating, and Storing (GES) process is used for both direct and indirect measures; however some of the specific steps will vary. Analysis is a process that provides better understanding of data and allows inferences to be made.

(i) Descriptive statistics are commonly used to describe test scores. Explain, with an appropriate example, what each of the following statistics means when it is used to describe test scores.

        i).   Mean

        ii).   Median

        iii).   Mode

        iv).   Standard Deviation   [8 marks]

(ii) Below are the marks obtained from 16 students who sat for a monthly test in Science?

        61, 82, 74, 58, 74, 58, 75, 54, 78, 65, 81, 38, 72, 98, 41, 74

    a.   Calculate the mean.   [4 marks]

    b.   Calculate the standard deviation.   [4 marks]

    c.   Calculation of Z-Scores for the highest score. [4 marks]

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

CINEC
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Beyond A Graduate

<u>END SEMESTER Examination Question Paper</u>

Code - QP
Approved for Quality Management System

B.Ed (Honours) in Information Technology
Course Code: LC – 0851
Year II – Semester I
Computer Graphics & Multimedia - BDI4064

Faculty	*Department / Section/Division*
Humanities and Education	*Department of Education*

INSTRUCTIONS TO CANDIDATES	*Date of the examination:* 2021.03.26
Candidates could be disqualified if you violate examination rules.	*Duration of the examination = 03 hours*
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	*Total Marks = 100 marks*

Answer five questions only

Question 1

(i) Identify all components of Multimedia and briefly explain them. Further describe differences in their retention levels. (14 marks)

(ii) Identify one of the above components of your choice and briefly describe its purpose, list 2 application areas and 2 examples of tools available to develop it. (6 marks)

(Total marks =20)

Question 2

(i) Describe what is a 'pixel' using illustrations. (4 marks)

(ii) A non-compressed bitmap image (.bmp) has a resolution of 720x576 with 8bits (depth) per channel in RGB color mode. Calculate following:
    a. Number of pixels in this image (4 marks)
    b. Calculate the file size in KB (6 marks)

(iii) If a smart phone has 13 Mega pixel primary camera, calculate the approximate file size of a picture taken with it. (6 marks)

(Total marks =20)

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Question 3

    (i) Describe the architecture of animation and its measurements   (5 marks)

    (ii) Briefly describe following terms:
          a. Key frame
          b. Non key frame
          c. Tweening
          d. Motion Tweening.   (12 marks)

    (iii)Describe the role of scripting when developing animation   (3 marks)

(Total marks =20)

Question 4

    (i) Identify and brief 3 properties of sound   (9 marks)

    (ii) Describe following terms related to audio:
          a. Sample size
          b. Sampling Rate.   (6 marks)

    (iii)Write brief description of process and steps in applying sound effects using an Audio editing Tool   (5 marks)

(Total marks =20)

Question 5

    (i) Analog television technology is still used in Sri Lanka. Describe the key differences between NTSC and PAL   (8 marks)

    (ii) Digital video recording devices use progressing scanning. Explain why this is more convenient compared to Analog recording devices when moving recorded footage in to the Computer.   (4 marks)

    (iii) Briefly explain the 4 stages of Video production.   (8 marks)

(Total marks =20)

Question 6

    (i) Discuss key differences between Bitmap and Raster graphic technologies

                                          (8 marks)

    (ii) Explain the purpose of multiple viewports when using 3 Dimensional modelling tools.

                                          (6 marks)

    (iii) HTML 5 brought several conveniences for the Interactive Multimedia developers. Briefly list 2 of them.   (6 marks)

(Total marks =20)

Question 7

   (i) In the last decade or two, plugins were a major component for web based multimedia and interactivity. Explain in your own words on the fate of browser plugins today

                        (6 marks)

   (ii) Describe with an example how 2 dimensional translation works   (8 marks)

   (iii) Compare and contrast RGB and CMYK color models   (6 marks)

(Total marks =20)

Question 8

   (i) Describe the importance of text styles in both desktop publishing and multimedia.

                        (6 marks)

   (ii) Explain following terms related to multimedia development
        a. Masking
        b. Sans Serif
        c. Chroma key   (6 marks)

   (iii)Briefly differentiate lossless and lossy compression mentioning example file formats

                        (8 marks)

(Total marks =20)

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

CINEC
C A M P U S
Beyond A Graduate

<u>END SEMESTER EXAMINATION QUESTION PAPER</u>
CODE - QP
Approved for Quality Management System

EDUCATION & TRAINING COURSE: B.ED (HONOURS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851
YEAR II – SEMESTER I
SOFTWARE PROCESS MODELLING– BDI4074

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	*Education*

INSTRUCTIONS TO CANDIDATES	*Date of the examination: 2021.03.26*
Candidates could be disqualified if you violate examination rules.	*Duration of the examination = 03 hours*
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	*Total Marks = 100 marks*

Answer for any five (05) questions only

Question 01

    (i) What are the phases in Software Development Life Cycle?   (02 Marks)

    (ii) Write two advantages in waterfall model.   (02 Marks)

    (iii)Draw the representation of following models.
        a. Waterfall model
        b. Spiral Model   (16 Marks)

(Total marks =20)

Question 02
Write the most suitable Software Development Model for following scenarios.

    (i) An Inventory management system is required for a shop. This is a stand-alone application. All the requirements are well defined. The project team has experience in developing this kind of systems before.   (04 Marks)

(ii) A software development team release a software and then according to user requirements they decided to increase the quality of their product. After do several modifications they release a new version of the software. (04 Marks)

(iii) A Student Management System for CINEC Campus. (04 Marks)

(iv) A Project is to develop a complete system for a new bank. System will have many users, interrelationships, and functions. The project has few risks related to requirements definition. These risks need to be reduced. (04 Marks)

(v) A health care application linking all hospitals and healthcare services in Sri Lanka. Then patients can find all the hospitals and health care services in one place. Ministry requires all initial versions of the system to be launched first and then the system can be completed gradually linking all hospitals and healthcare services.

(04 Marks)

(Total marks =20)

Question 03

Assume that you need to implement a Classroom Management System for your school. Answer to following questions which are based on your implementation.

(i) What are the techniques you can use to gather the requirements? (02 Marks)

(ii) Write Two (02) non-functional requirements. (02 Marks)

(iii) Write three (03) functional requirements which you have classified in this system.
(03 Marks)

(iv) Write three (03) user-story cards which describe the functionality of the system. Provide the answer according functional requirements you wrote in part (ii). (03 Marks)

(v) What is SRS? What is the purpose of having a SRS and What is the structure of SRS? Briefly describe your answer. (10 Marks)

(Total marks =20)

Question 04

(i) What is software testing? Briefly explain. (02 Marks)

(ii) List down five (05) software testing levels. (05 Marks)
(iii) Briefly describe 'White-box testing' and 'Black-box testing'. (04 Marks)

(iv) Devise a test plan with three (03) test cases for given scenario. (09 Marks)
A simple program which will calculate the bill for customers who buy up to ten (10) different books, each costing between Rs.100.00 and Rs.2000.00.

(Total marks =20)

Question 05

(i) What is 'Agile Methodology'? Write the definition. (05 Marks)

(ii) Write five (05) characteristics of agile methodology. (05 Marks)

(iii) Write five (05) benefits of using agile methodology. (To customer, vendor or development team) (05 Marks)

(iv) Write your opinion of using agile methodology for the implementations. (05 Marks)

(Total marks =20)

Question 06
Draw a use case Diagram to given description. (20 Marks)

'Siksa' is a private school in Malabe. The principle of 'Siksa' decided to have an online student learning system due to the covid-19. Teachers can upload teaching materials to the system. They also can mark assignments through the system. Student can view lecture materials and upload answers to the system. Before all these functions both student and teachers must login to the system by providing user credentials. If the user credentials are invalid system should display an error message.

(Total marks =20)

Question 07

Write the usecase scenario for 'view lecture materials' function. (Even the description is same as Question 06, it is **not compulsory** to do Question 06 to do Question 07.) (20 Marks)

'Siksa' is a private school in Malabe. The principle of 'Siksa' decided to have an online student learning system due to the covid-19. Teachers can upload teaching materials to the system. They also can mark assignments through the system. Student can view lecture materials and upload answers to the system. Before all these functions both student and teachers must login to the system by providing user credentials. If the user credentials are invalid system should display an error message.

(Total marks =20)

Question 08

(i) What is DFD? Briefly describe. (03 Marks)

(ii) What are the advantages of using DFD? Write two (02). (04 Marks)

(iii)Briefly explain Level 0 and Level 1 in Data Flow Diagrams. (05 Marks)

(iv)Briefly describe the symbols, use to draw DFD (both 'Yourdon and Coad' and 'Gane and Sarson'). (08 Marks)

(Total marks =20)

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

Colombo International Nautical and Engineering College
Winner -World Class - Global Performance Excellence Award 2012- Education Organization
Winner -International Asia Pacific Quality Award – 2010 - Best in Class- Education Organization
Winner - Sri Lanka National Quality Award 1999 – 2004 – 2009 – 2014
Approved for Quality Management System

EDUCATION & TRAINING COURSE: BACHELOR OF EDUCATION (HONS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC-0851

END SEMESTER EXAMINATION QUESTION PAPER
YEAR I – SEMESTER I
INTRODUCTION TO PROGRAMMING – BDI3014

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	Education and Languages

INSTRUCTIONS TO CANDIDATES	Date: 2019.10. 03
Total Marks = 100	Duration of the examination = 03 hours
	Candidates could be disqualified if you violate examination rules.
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.

Important:

- Candidate should answer only for 5 Questions, from given questions.

- **Create a new file folder in Desktop** and rename it by giving your **Full name and the Registration Number.**
  Ex: **Netmini_Fernando__113456.**

- You need to save all your codes inside that folder.

- Write the codes in your answer sheets as well as instructed in questions.

Question 01

1. What is a Loop in Programming? Explain with one example. (05 Marks)

2. Develop a Pascal Program to print the sum of first 10 numbers (1-10). Write the pascal code in answer script as well. (15 Marks)

(Total 20 Marks)

Question 02

Draw a Flow Chart to find the minimum number from A,B, and C. (20 Marks)

Question 03

a) What are the two types of Program paradigms. Explain. (04 Marks)

b) Explain meanings of following terms. You can use diagrams in your explanations.

    I.   Object

    II.   Class

    III. Inheritance (02*3= 6 Marks)

c) Draw Entity Life History diagram for Student. Use all 3 structures. (10 Marks)

(Total 20 Marks)

Question 04

Read the following scenario and develop a pascal program to get the output accordingly.

Develop a pascal program to enter the designation and to output the salary according to designation. If salary in between 25,000 - 50,000 program should output as " Assistant Manager". If salary is greater than 50,000 program output as" Manager". Else, salary less than 25 000, output as "Invalid salary". Write the pascal code in answer script as well. (20 Marks)

Question 05

Develop a Pascal program to input two integers, and to output the total of two integers. Use a procedure in your program. Write the pascal code in answer script as well. (20 Marks)

Question 06

Develop a pascal program for calculate and display the average from M1, M2 and M3. Write the pascal code in answer script as well. (20 Marks)

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

EDUCATION & TRAINING COURSE: BACHELOR OF EDUCATION (HONS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851

END SEMESTER EXAMINATION QUESTION PAPER
YEAR I – SEMESTER I
PHILOSOPHICAL FOUNDATION IN EDUCATION – BDP3013

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	Education and Languages

INSTRUCTIONS TO CANDIDATES	Date: 2019.10.01
Total Marks = 100	Duration of the examination = 03 hours
	Candidates could be disqualified if you violate examination rules.
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
NOTE: Answer any 05 questions out of 08	

Question 01 (20 Marks)

1. The word philosophy means "the love of wisdom". Wisdom is not only knowledge. Wisdom constitutes knowledge and its implications, and it gives man wisdom with the help of how he understands the whole universe and its implications in relation to himself and all the people around.

   (i). Discuss what the main branches of philosophy are and how they are related to one another. (10 Marks)

   (ii). Explain the major philosophical schools of thought and the related teaching approaches? (10 Marks)

Question 02 (20 Marks)

2. Philosophy and education are two different fields of studies, but they are closely linked together because without any rational thinking prior to education, the whole educational process is directionless.

(i) Explain the role of philosophy in the field of education. (10 Marks)

(ii) Point out the aims of education and role of the teacher according to an educational philosopher you admire. (10 Marks)

Question 03 (20 Marks)

Aims are decided at national level by policy making groups.

    (i) Describe the nature of the aims, objectives and specific objectives in education. (7 marks)

    (ii) Discuss three aspects of education quoting examples. (6 Marks)

    (iii) Distinguish between non-formal and informal systems of education with three examples.

    (7 marks)

Question 04 (20 Marks)

(i) What were the short comings of the existed system of education found out by the special committee (1943) chaired by the Hon. C.W.W. Kannangara, the Minister of Education?

    (7 marks)

(ii) Explain aims of education stated in the five-year plan in 1972/1979. (6 Marks)

(iii) Discuss the main areas in educational reforms in 2008. (7 marks)

Question 05 (20 Marks)

The current system of education in Sri Lanka focuses on number of issues and controversies such as Multicultural education, Value / Moral education, Lifelong education, Adult education, shouldering the responsibility of preparing the individual to become useful members of the society.

(i). Mention the cultural issues in the Sri Lankan school education system. (10 Marks)

(ii). Briefly discuss the role of school in cultivation of values through curricular activities.

    (10 Marks)

Question 06 (20 Marks)

The national system of education should assist individuals and groups to achieve major national goals that are relevant to the individual and society.

(i) Briefly explain the national goals of Sri Lanka. (5 Marks)

(ii) Describe the roles of the NIE and NEC. (7 Marks)

(iii) "As an IT Teacher, competencies related to communication is relevant and important". Elucidate this statement.

    (8 Marks)

Question 07 (20 Marks)

(i) Explain the relationship between education and development. (5 Marks)

(ii) "Development does not mean economic development alone. It should lead to total development". Do you agree. Justify your answer. (7 Marks)

(iii) As teachers, how would you promote social cohesion through education. Discuss with examples. (8 Marks)

Question 08   **(20 Marks)**
(i.)   How would you define the term "Globalization".   (4 Marks)
(ii.) What is the relationship between Globalization and Education? Give **two** examples.
                                                                     (8 Marks)
(iii.) "Aims of global education are important for the 21ˢᵗ century teacher". Analyze this
       statement.   (8 Marks)

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

Colombo International Nautical and Engineering College
Winner - World Class - Global Performance Excellence Award 2012- Education Organization
Winner - International Asia Pacific Quality Award – 2010 - Best in Class- Education Organization
Winner - Sri Lanka National Quality Award 1999 – 2004 – 2009 – 2014
Approved for Quality Management System

EDUCATION & TRAINING COURSE: BACHELOR OF EDUCATION (HONS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851

END SEMESTER EXAMINATION QUESTION PAPER
YEAR I – SEMESTER I
GENERAL ENGLISH – BDP3022

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	Education and Languages

INSTRUCTIONS TO CANDIDATES	Date: 2019.09.30
Total Marks = 100	Duration of the examination = 03 hours
	Candidates could be disqualified if you violate examination rules.
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
NOTE: Answer all 05 questions : Answer in the paper itself.	

INDEX NUMBER: ....
For Office use Only

Question No:	1	2	3	4	5			Total Marks	%	Signature
For Scrutinizer's Use Only (marks)										
For Moderator's Use Only (marks)										

Question 01
Read the following passage and write complete answers for the questions given below.

(2*10 = 20 marks)

You have read about Romulus and Remus whose culture shock came when they went back to the world of human beings after being raised by a wolf. Tarzan's culture shock came when he discovered that he was not a "white ape" but a human being. Emily Carr preferred the culture of the First Nations people and the life she led on her explorations to the dresses and polite conversations of her own culture. You now know that First Nations culture did not include school or even business activity, people spent most of their time in nature or around the fire of their home talking, telling stories and making the things they needed to survive.

Psychologists tell us that there are four basic stages that human beings pass through when they enter and live in a new culture. This process, which helps us to deal with culture shock, is the way our brain and our personality reacts to the strange new things we encounter when we move from one culture to another. If our culture involves bowing when we greet someone, we may feel very uncomfortable in a culture that does not involve bowing. If the language we use when talking to someone in our own culture is influenced by levels of formality based on the other person's age and status, it may be difficult for us to feel comfortable communicating with people in the new culture.

Culture begins with the "honeymoon stage". This is the period of time when we first arrive in which everything about the new culture is strange and exciting. We may be suffering from "jet lag" but we are thrilled to be in the new environment, seeing new sights, hearing new sounds and language, eating new kinds of food. This honeymoon stage can last for quite a long time because we feel we are involved in some kind of great adventure.

Unfortunately, the second stage of culture shock can be more difficult. After we have settled down into our new life, working or studying, buying groceries, doing laundry, or living with a home-stay family, we can become very tired and begin to miss our homeland and our family, girlfriend/boyfriend, pets. All the little problems that everybody in life has seem to be much bigger and more disturbing when you face them in a foreign culture. This period of cultural adjustment can be very difficult and lead to the new arrival rejecting or pulling away from the new culture. This "rejection stage" can be quite dangerous because the visitor may develop unhealthy habits such as smoking and drinking too much, being too concerned over food or contact with people from the new culture. This can, unfortunately lead to the person getting sick or developing skin infections or rashes which then makes the person feel even more scared and confused and helpless. This stage is considered a crisis in the process of cultural adjustment and many people choose to go back to their homeland or spend all their time with people from their own culture speaking their native language.

The third stage of culture shock is called the "adjustment stage". This is when you begin to realize that things are not so bad in the host culture. Your sense of humour usually becomes stronger and you realize that you are becoming stronger by learning to take care of yourself in the new place. Things are still difficult, but you are now a survivor!

The fourth stage can be called "at ease at last". Now you feel quite comfortable in your new surroundings. You can cope with most problems that occur. You may still have problems with the language, but you know you are strong enough to deal with them. If you meet someone from your country who has just arrived, you can be the expert on life in the new culture and help them to deal with their culture shock.

There is a fifth stage of culture shock which many people don't know about. This is called "reverse culture shock". Surprisingly, this occurs when you go back to your native culture and find that you have changed and that things there have changed while you have been away. Now you feel a little uncomfortable back home. Life is a struggle!

i)   State two examples of culture shock, how it happened to them as given in paragraph one.

----

ii)   What is meant by the process that helps us to deal with the culture shock?

----

iii)   State two examples given for new things we encounter that will cause culture shock ?

----

iv)   What are the stages of culture shock ?

----

v)   What makes the individual excited and happy during the first stage of culture shock ?

----

vi)   What makes the second stage of culture shock difficult for the expat ?

----

vii)   What unhealthy habits the expat will develop during the second stage of culture shock ?

----

viii)   How does one become a survivor during the third stage. Explain it in your own words.

----

ix)   How does 'Life becomes a struggle' for the individual in his own native land ?

----

x)   Suggest a suitable title for the text.

Question 02

Describe the following graph. (125 words)   (15 marks)

The bar chart below shows the number of men and women studying engineering at Australian universities.

Summarize the information in the chart by selecting and reporting the main features. Make comparisons where relevant.
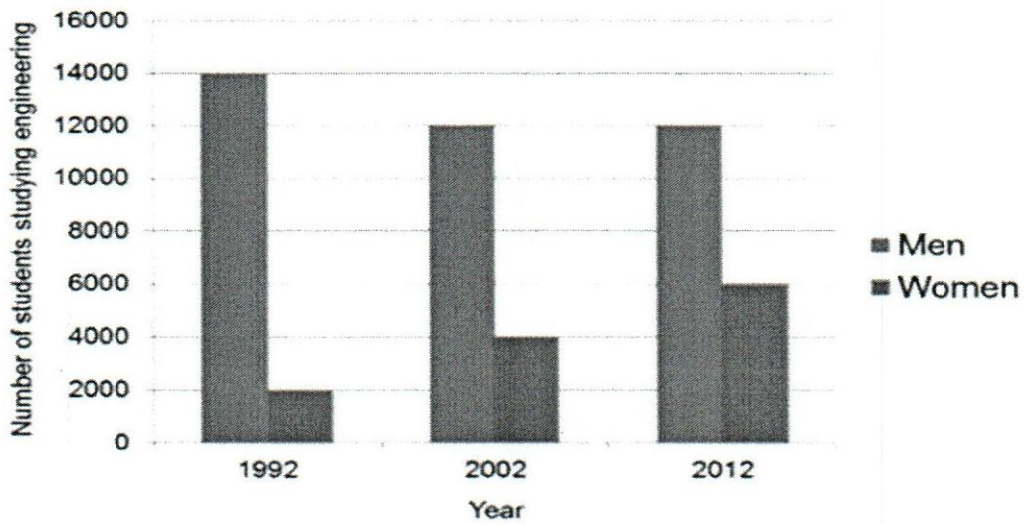
Question 03

Rewrite the following reference by rearranging the oder and making necessary changes. For italics use some other colour or underline them.

(20 marks)

Diabetes New Zealand / Retrieved from http://www.diabetes.org.nz/food_and_nutrition/ideal_plate#the%20ideal%20plate / The Ideal Plate / (n.d.)

Banksy: The Man Behind the Wall / London / England: Aurum Press / (2012) / Ellsworth-Jones, W.

A Tale of Two Capitals / (2011) / 112-125 / Hannah James / 32(7) The Journal of New Zealand Art History

Pearson. (2012). Sam Robbins , Paul Bergman, Roy Stagg / Gabriel Forest, Australia: Management (6th ed.).

A Journal of Logical Form in Education / Samuel Duckworth / A Series of Checklists for Evaluating Pig Latin Performance / 9(5) 110-115. (1978).

Question 04

Read the following passage and answer the questions given below. (20 marks)

1. Did you know that some people do not do their reading assignments? It is shocking, but it is true. Some students do not even read short texts that they are assigned in class. There are many reasons for this. They may be distracted or bored. They may be unwilling to focus. They may be unconfident readers. Whatever the reason, it has to stop today.

2. Reading stimulates your mind. It is like a workout for your brain. When people get old, their muscles begin to deteriorate. They get weaker and their strength leaves them. Exercise can prevent this loss. The same thing happens to people's brains when they get older. Brain power and speed decline with age. Reading strengthens your brain and prevents these declines.

3. You can benefit from reading in the near-term too. Reading provides knowledge. Knowledge is power. Therefore, reading can make you a more powerful person. You can learn to do new things by reading. Do you want to make video games? Do you want to design clothing? Reading can teach you all this and more. But you have to get good at reading, and the only way to get good at something is to practice.

4. Read everything that you can at school, regardless of whether you find it interesting. Reading expands your vocabulary. Even a "boring" text can teach you new words. Having a larger vocabulary will help you better express yourself. You will be able to speak, write, and think more intelligently. What's boring about that?

5. Do not just discount a text because it is unfamiliar to you. Each time you read, you are exposed to new ideas and perspectives. Reading can change the way that you understand the world. It can give you a broader perspective on things. It can make you worldlier. You can learn how people live in faraway places. You can learn about cultures different from your own.

6. Reading is good for your state of mind. It has a calming effect. It can lower your stress levels and help you relax. You can escape from your troubles for a moment when you read, and it's a positive escape. The benefits of reading far outweigh those of acting like a doofus. So do yourself a favor: the next time you get a reading assignment, take as much as you can from it. Squeeze it for every drop of knowledge that it contains. Then move on to the next one.

1. Mention three reasons given by the author for students failing to complete reading assignments? (03 marks)

a. ....

b. ....

c. ....

2. How does reading benefit the human brain? Explain in your own words.

(02 marks)

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3 What are the short-term benefits that a person who reads gain? Explain in your own

words. (02 marks)

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4   'Reading can widen your perceptions'. Do you agree with this statement? Give reasons

for your answer.   (02 marks)

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5   'If you are a good reader, you will be a powerful person'. Do you agree with this

conception? Explain your opinion briefly.   (02 marks)

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6 Why does the author believe that reading boring or unfamiliar books also can be helpful for

readers?   (02 marks)

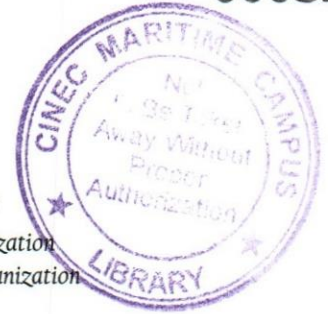
7   Why does the author describe reading as a "positive escape"? In what ways is reading

positive? Use evidence from the text to support your response.   (02 marks)

8.According to your point of view, what is the writer's purpose of writing this article?

(02 marks)

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9   Reading helps to improve language and communication skills. Explain this statement

using your own experiences.   (03 marks)

Question 05

Write an essay explaining your views on the effects of technology on education. (200 words)

(25 marks)

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Approved for Quality Management System

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	Education and Languages

EDUCATION & TRAINING COURSE: B.ED (HONOURS) IN INFORMATION TECHNOLOGY COURSE CODE: LC – 0851
MID SEMESTER EXAMINATION QUESTION PAPER YEAR I – SEMESTER I INFORMATION SYSTEMS AND DATA MODELLING– BD13023

| INSTRUCTIONS TO CANDIDATES	Date of the examination: 2019.08. 30
Answer all questions.	Duration of the examination = 1 ½ hours
Candidates could be disqualified if you violate examination rules.	Total Marks = 20
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	

Instructions:

* **Answer all questions.**

* **This question paper consists of two parts, Part A and Part B.**

* **Total Marks: 20**

Part A

Question 01

Underline the correct answer for all five (05) questions in the paper. There is no negative marking; a wrong answer achieves 0 marks.

(01) What is the following *manages* relationship an example of:
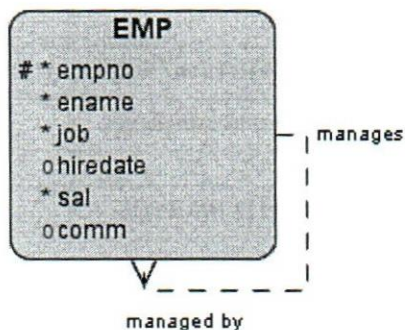
    (i)   Exclusive relationship
    (ii)   Recursive relationship
    (iii)   Inclusive relationship
    (iv)   Identifying relationship

(02) What type of relationship does this ER diagram represent:
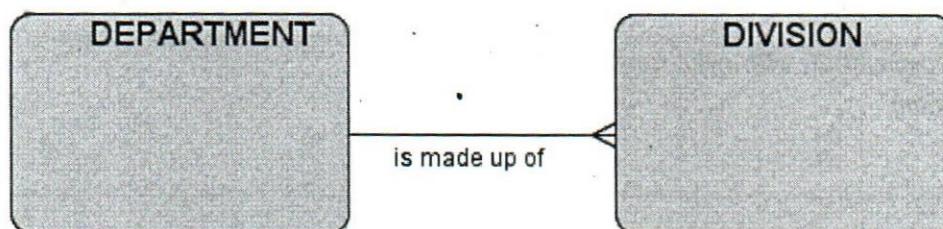
    (i)   1:1 (one-to-one) relationship
    (ii)   1:N (one-to-many) relationship
    (iii)   M:M (many-to-many) relationship
    (iv)   I:N (one-to-many) Identifying relationship

(03) If an individual member of a hobby club can participate in many hobbies and a hobby has multiple participants, how would you describe the relationship between hobbies and participants?

    (i)   1:N
    (ii)   N:1
    (iii)   1:1
    (iv)   M:N

(04) Which term correctly defines a "tuple" in a database relation?
- (i) Column
- (ii) Attribute
- (iii) Table
- (iv) Row

(05) What term refers to a field in one table in a database that is used to link to another table in the same database?
- (i) Link
- (ii) Index
- (iii) Relation
- (iv) Foreign Key

(2X5 = 10 marks)

Part B

Answer the question below.

Question 02

Data modelling techniques are used to build a stable data model.

(i) List the elements of a logical data model (entity-relationship model). (02 marks)

(ii) The following is a list of data items describing projects and personnel linked to those projects. Each project may have more than one person allocated to it. The date-joined refers to the date the person joined the project. The allocated-time indicates the length of time a person is allocated to a project. Each person is on a single job grade. One salary scale may apply to a number of grades, but a given grade will only apply to one salary scale.

Project code
Project type
Project description
Personnel no
Name
Grade
Salary-scale
Date-joined
Allocated-time

Produce a logical data model (entity-relationship model) depicting the above scenario.

(08 marks)

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

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Faculty	Department / Section/Division
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EDUCATION & TRAINING COURSE: B.ED. (HONORS) IN INFORMATION TECHNOLOGY
COURSE CODE: LC – 0851
MID SEMESTER EXAMINATION QUESTION PAPER
YEAR I – SEMESTER I
MATHEMATIC FOR COMPUTING – BDI3033

INSTRUCTIONS TO CANDIDATES	Date of the examination: 2019.08.23
Answer all questions.	Duration of the examination = 1½ hours
Candidates could be disqualified if you violate examination rules.	Total Marks = 60
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	

Instructions:

* **Answer all questions.**
* **Total Marks: 60**

Question 01

Consider the function $f(x) = x^3 - 2x^2 + x + 1$. Find,

a) the derivative of $f(x)$. (3)

b) the interval(s) on which $f(x)$ is increasing. (5)

c) the x-coordinates of the critical points for $f(x)$. (5)

d) the second derivative of $f(x)$. (2)

e) the intervals on which $f(x)$ is concave down and concave up. (4)

f) Identify the local maximum and the local minimum points of $f(x)$ using the second derivative test and the answer to part (c). (4)

(23 marks)

Question 02

a) Find $f'(x)$ for $f(x) = 2x^2 + e^{-x^4}$ (7)

b) Given $y = 3^x e^x$, show that $\frac{dy}{dx} = 3^x e^x [\ln(3) + 1]$ (7)

         (14 marks)

Question 03

$$y = \ln\left(\frac{3x + 5}{x^2}\right)$$

Find $\frac{dy}{dx}$

         (15 marks)

Question 04

A curve passes through the point (1, -1) and satisfies $\frac{dy}{dx} = 9x^2 - 1$. Find the equation of the curve in terms of x.

         (08 marks)