Seat No. _____ Enrollment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY

P.G. Diploma in Geoinformatics – SEMESTER 2

SUMMER (REGULAR) 2022 EXAMINATION

Course Title: Digital Image Processing

Course Code: 101780201

Total Printed Pages : 02

Date: 06/05/2022 **Time: 10.30 am to 12.30 pm** **Maximum Marks: 60**

Instructions:

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q. 1 **Answer the following multiple choice questions.** **(12)**

(1) Digital images are displayed as a discrete set if
(a) values (b) numbers (c) frequencies (d) intensities

(2) An image is a two dimensional function where x and y are
(a) spatial coordinates (b) frequency coordinates
(c) time coordinates (d) real coordinates

(3) Image restoration is used to improve the _____of image
(a) quantity (b) quality (c) blur (d) none

(4) The process of extracting information from the image is called as
(a) Image enhancement (b) Image restoration
(c) Image Analysis (d)Image compression

(5) Which of the following is the first and foremost step in Image Processing?
(a) Image acquisition (b) Segmentation
(c) Image enhancement (d) Image restoration

(6) Which of the following statement describe the term pixel depth?
(a) It is the number of units used to represent each pixel in RGB space
(b) It is the number of mm used to represent each pixel in RGB space
(c) It is the number of bytes used to represent each pixel in RGB space
(d) It is the number of bits used to represent each pixel in RGB space

(7) Which of the following is the primary objective of sharpening of an image?
(a) Decrease the brightness of the image
(b) Increase the brightness of the image
(c) Highlight fine details in the image
(d) Blurring the image

(8) Which side of the greyscale is the components of the histogram concentrated in a dark image?
(a) Medium (b) Low (c) Evenly distributed (d) High

(9) _____ filter is known as averaging filters.
(a) Bandpass (b) Low pass (c) High pass (d) None

(10) The most familiar single sensor used for Image Acquisition is
(a) Microdensitometer (b) Photodiode
(c) CMOS (d) None of the Mentioned

(11) The procedure done on a digital image to alter the values of its individual pixels is
(a) Neighbourhood Operations (b) Image Registration
(c) Geometric Spacial Transformation (d) Single Pixel Operation

(12) What is pixel?
(a) Pixel is the elements of a digital image
(b) Pixel is the elements of an analog image
(c) Pixel is the cluster of a digital image
(d) Pixel is the cluster of an analog image

Q. 2 Attempt **any eight** of the following. **(16)**

(1) What is Image? List down types of image.
(2) What is multispectral image?
(3) List out applications of DIP.
(4) Explain Components of Image processing system.
(5) Define Sampling and quantization.
(6) What is contrast stretching? Why is it used?
(7) Define mask processing, filtered image.
(8) What is smoothing filter? Why is it used?
(9) Define first order derivative and second order derivative.
(10) What is Image Compression? List out types of image compression.

Q. 3 What is Image Resolution? Write a note on types of Resolution. **(08)**

OR

Q. 3 What is Image Quality? Write a note on two types of errors in digital image. **(08)**

Q. 4 How digital image is stored? Explain three ways to store 3*3 digital image. **(08)**

OR

Q. 4 Write a note on steps in digital image processing. **(08)**

Q. 5 What is image interpretation? Write a note on elements of image interpretation. **(08)**

OR

Q. 5 Write a note on basic intensity transformation functions. **(08)**

Q. 6 What is Image Histogram? Explain Histogram equalization with example. Also explain three basic conditions for histogram equalization. **(08)**

OR

Q. 6 Write a note on spatial filtering. Explain all types of filters in detail. **(08)**

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Seat No. _____ Enrollment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY

PGD in Geoinformatics, Sem-II[nd]

Examination: May 2022

101780202: Python Programming

Date: 07[th] May 2022 **TOTAL MARKS:** 60

Day: Friday **Time:** 10:30 AM to 12:30 PM

Q. 1 Choose the most correct answer. [12]

(1) To print a statement in python IDE _____ key word is use.
- (A) printf
- (B) print
- (C) fprint
- (D) All of above

(2) Python is _____ level programming language
- (A) Higher
- (B) Low
- (C) Middle
- (D) All of above

(3) Extension of python file is _____ .
- (A) .pi
- (B) .py
- (C) .pp
- (D) All of above

(4) Python can be used in _____ mode.
- (A) interactive
- (B) script
- (C) Both (A) & (B)
- (D) All of above

(5) Python IDE means: Integrated _____ environment.
- (A) Development
- (B) Deriving
- (C) Debugging
- (D) Designing

(6) != is used as _____ operation in python.
- (A) NOR
- (B) NOT
- (C) NAND
- (D) none of above

(7) The symbol _____ is a prompt the python interpreter uses to indicate that it is ready.
- (A) >>
- (B) <<
- (C) >>>
- (D) <<<

(8) \a: is indicate_____ in python.
- (A) accept
- (B) access
- (C) alert
- (D) All of above

(9) Get the value of the 'a' from {'1','2','3','a','b','c'}, indexing ___ is used
- (A) [0]
- (B) [3]
- (C) [2]
- (D) [4]

(10) With the _____statement we can stop the loop even if the test condition is true
- (A) while
- (B) break
- (C) continue
- (D) All of above

(11) All classes have a function called _____which is always executed when the class is being initiated.
- (A) __init___[ ]
- (B) __init___{ }
- (C) __init__()
- (D) All of above

(12) The pre-defined function _____is used to return the current time of the system.
- (A) time. tick ()
- (B) time. tick [ ]
- (C) time.time()
- (D) time.time[]

Q.1 **Answer the following in short.** (Attempt any eight, each two marks) **[16]**

(1) Define Tick in python.
(2) List any 10-python reserved key word list.
(3) List time tuples in python
(4) Write an importance of variable in Python.
(5) List a standard rule for giving a name of variable in python
(6) Why is Python language widely used?
(7) What is array in python?
(8) Define python classes.
(9) Write a program to print calendar of Many 2022.
(10) Write a program to find tick in your computing system.

Q.2 Write a note on different data types in Python. **[08]**

OR

Introduce IF.....Else & while loop with suitable program flow in python. **[08]**

Q.3 Explain arithmetic, logical and assigning operator with necessary example. **[08]**

OR

Write a note on python functions. **[08]**

Q.4 What is type conversation (casting)? Why it is necessary? Illustrate with necessary examples. **[08]**

OR

Write a program to find larges odd number from given n data. **[08]**

Q. 5 Illustrate python date and time module with necessary examples **[08]**

OR

Write a note on python list and tuple with data set characteristics. **[08]**

-: All The Best: -

Seat No. _____ Enrolment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY

P.G. Diploma in Geoinformatics – SEMESTER 2

SUMMER (REGULAR) 2022 EXAMINATION

Course Title: Introduction to Database Management System

Course Code: 101780203

Total Printed Pages : 02

Date: 09/05/2022 **Time: 10.30 am to 12.30 pm** **Maximum Marks: 60**

Instructions:

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q. 1 **Answer the following multiple choice questions.** **(12)**

(1) The full form of RDBMS is?
(a) Relational Database Management System
(b) Relational Database Management Services
(c) Relational Database Managerial System
(d) Relational Database Managerial Services

(2) Which of the following constraints RDBS doesn't check before creating the tables?
(a) Not null (b) Primary keys
(c) Data Structure (d) Foreign Keys

(3) _____ deletes a data item from a database.
(a) Insert(RDBMS) (b) Drop(RDBMS)
(c) Delete(RDBMS) (d) None of the mentioned

(4) What does the following query do?
UPDATE student
SET marks = marks*1.10;
(a) It decreases the marks of all the students by 90%
(b) It increases the marks of all the students by 10%
(c) It is syntactically wrong
(d) It increases the marks of all the students by 110%

(5) What is a foreign key?
(a) A foreign key is a primary key of a table which is an attribute in another table
(b) A foreign key is a superkey of a table which is an attribute in more than one other tables
(c) A foreign key is an attribute of a table that is a primary key of another table
(d) A foreign key is the primary key of a table that does not occur anywhere else in the schema

(6) An attribute is a _____ in a relation.
(a) Row (b) Column (c) Value (d) Tuple

(7) Which command is used to create a new table in SQL
(a) create table(, ...) (b) create relation(, ...)
(c) new table(, ...) (d) new relation(, ...)

(8) Which of the following syntax of the basic query is correct?
(a) select <table> from <attribute> (b) select <attribute> from <table>
(c) select <row> from <table> (d) select <row> from <attribute>

(9) **Select distinct dept_name from institute;**
What does the above query do?
(a) It gives all the rows having a distinct dept_name
(b) It gives the dept_name attribute values of all rows without repetition
(c) It gives all the dept_name attribute of all the rows
(d) It gives all the rows having a null value under the dept_name attribute

(10) The _____ query is used to list the attributes from the table.
(a) select (b) delete (c) drop (d) create

(11) What is DBMS?
(a) DBMS is a collection of queries
(b) DBMS is a high-level language
(c) DBMS is a programming language
(d) DBMS stores, modifies and retrieves data

(12) In which of the following formats data is stored in the database management system?
(a) Image (b) Text (c) Table (d) Graph

Q. 2	Attempt **any eight** of the following.	**(16)**
(1)	Define Field, Record.	
(2)	What is DBMS and RDBMS? List out various database softwares.	
(3)	What is Join? List out types of joins.	
(4)	List out SQL Commands.	
(5)	What is the full form of DDL and DML.	
(6)	Define primary key, Not null.	
(7)	What is foreign key?	
(8)	Enlist types of relationship between tables.	
(9)	What is data type? List out different data types.	
(10)	Differentiate DBMS and RDBMS.	
Q. 3	What is constraint? Write a note on types of constraints.	**(08)**
	OR	
Q. 3	Write a note on Data Model.	**(08)**
Q. 4	Explain Basic operations on RDBMS in detail.	**(08)**
	OR	
Q. 4	Write a note on Database design.	**(08)**
Q. 5	Explain E-R Diagram in detail with example.	**(08)**
	OR	
Q. 5	Write a note on Database Normalization.	**(08)**
Q. 6	Explain select statement in detail with various clauses.	**(08)**
	OR	
Q. 6	What is Database? How data can be stored in database? Explain this by taking suitable examples.	**(08)**

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