

KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

HIRANYA KUMAR BHUYAN SCHOOL OF SCIENCE AND TECHNOLOGY

HOME ASSIGNMENT

BACHELOR OF COMPUTER APPLICATION

6th Semester Assignment

2020

IMAGE PROCESSING
GCA S6 01
6th Semester, 2020

Total Marks: 50

Assignments are required to be written in your own language. Copying from the learning materials will carry less score

A. Answer the following questions:

2 X 4 = 8

Q1. What is lossy and lossless image compression? Give examples.

Q2. What is convolution?

Q3. What are the difference between analog image and digital image? What is JPEG?

Q4. Give the difference between binary and grayscale image?

B. Answer the following questions:

3 X 4 = 12

Q1. What is low-pass and high-pass filter? What is an ideal high pass filter?

Q2. Define sampling and quantization. What is the relation between image clarity and quantization?

Q3. How median filtering is used to reduce image noise?

Q4. What is violation of sampling criterion and how it can be avoided?

C. Answer the following two questions:

5 X 2 = 10

Q1. Explain vector quantization technique.

Q2. Discuss the purpose of histogram equalization.

D. Answer the following two questions:

10 X 2 = 20

Q1. Specify the properties of 2D Discrete Fourier transform

Q2. What is Image restoration? Briefly discuss any two deterministic image restoration techniques. Give two areas where restoration process can be applied.

*** **

OPEN SOURCE SOFTWARE
GCA S6 02
6th Semester, 2020

Total Marks: 50

Assignments are required to be written in your own language. Copying from the learning materials will carry less score

A. Answer the following questions: 2 X 4 = 8

- Q1. Write down the structure of LaTeX file which can create a reference list.
- Q2. How can we create a footnote at the bottom of the title page?
- Q3. How can we install Python in Linux environment?
- Q4. How to install a package in Scilab?

B. Answer the following questions: 3 X 4 = 12

- Q1. What are the different ways of running Python commands?
- Q2. How can 2D and 3D plots of given data be plotted in Scilab? Give example
- Q3. Given three differences between Scilab and Matlab.
- Q4. Write a Python program to count positive and negative numbers in a list.

C. Answer the following two questions: 5 X 2 = 10

- Q1. Create a LaTeX file containing a paragraph and a figure. Insert the figure within the paragraph.
- Q2. Describe any two conditional statements used in Scilab with syntax and example.

D. Answer the following two questions: 10 X 2 = 20

- Q1. How can we create a numbered list and a bulleted list? Give examples.
- Q2. What are the different themes available in beamer class? How can you change the color of the slides in beamer?

*** ***** ***

Assignment Guidelines

A. Guidelines to Co-ordinators:

- 1. Assignments are parts of teaching-learning process and compulsory.
- 2. The spirit behind this is to help learners to understand the subject and prepare themselves better for the term-end examination.
- 3. Assignment responses are to be evaluated and feedbacks are required to be communicated to the learners, by giving back the assignments with evaluator’s comments. Such assignments are to be collected at the time of issuing admit cards and be stored in the centre’s office till the end of next semester.
- 4. Assignment marks are to be sent to the Controller of Examinations as soon as the examination routines are published.
- 5. Keeping the above points in mind Co-ordinators will fix the time/date of submission of assignments by the learners as may be convenient to follow the guidelines in true spirits.

B. Guidelines to learners:

- 1. As soon as the SLMs are received the learners will write the assignments in their own handwriting (assignment questions may be downloaded from the website, if necessary) to be submitted to Co-ordinators as per the dates fixed for the purpose. Timely submission of assignments at the Study Centres will help in quick processing of results of respective learners. Otherwise this will create unnecessary delay in declaration of results.
- 2. Writing of assignment (work) and submission of the same in time is compulsory.

Registrar

N.B. The learners will have to collect receipt after submitting the assignment with the signature and seal of the collector of study centre and will have to keep with him/her till the declaration of result.

✂
.....

Receipt

Received the assignment from Mr/Ms

Enrollment numberof **6th Semester BCA** on2020.

Date:
::: ::::: :::

Signature of collector with seal