

Instructions:

- **Write both the Sections in the separate answer book.**
- **Both Sections having equal weightage.**
- **Draw Diagrams wherever necessary.**
- **Make Assumptions wherever necessary.**

SECTION – I

- Q1.(a) Explain components of a computer vision system. List down applications of vision using following bands [06]
- i. visible
 - ii. x-rays
 - iii. microwaves
 - iv. radio waves
- Q1.(b) Write mathematical equations and draw graphs for: [03]
- i. Image negation
 - ii. Gamma transformation
 - iii. Log transformation
- Q2. Explain the following (**ANY TWO**) [08]
- i. Histogram and Histogram Equalisation
 - ii. Types of smoothing operators
 - iii. Image addition and subtraction
- Q3 Explain (**ANY TWO**) [08]
- i. Bit plane Slicing
 - ii. Intensity slicing
 - iii. Contrast stretching

(P.T.O.)

SECTION – II

Q-4 Write effects and convolution masks for following filters: [08]

- i. Robert
- ii. Prewitt
- iii. Sobel
- iv. Canny

Q-5 Give difference between (ANY TWO): [08]

- i. Simple thresholding and otsu binarization
- ii. Semantic and instance segmentation
- iii. Structural and stochastic segmentation

Q-6 Explain image transformations. Write the 3-D matrices and effects of [09]
rotation, translation, scaling and perspective transformation.

OR

Q-6 Define morphological image processing. Explain using the following: [09]

- i. Structuring element
- ii. Types with examples of structuring elements
- iii. Hits and fits

Give difference between dilation and erosion . What effects do they have on image? For the given image and structuring element S, find the erosion and dilation image

0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1	0
0	0	1	1	1	0	0	0	0	0	0	0
0	0	0	1	1	1	0	0	0	0	0	0
0	0	1	1	1	1	1	0	0	0	0	0
0	0	0	1	0	1	1	1	1	0	0	0
0	0	1	1	1	1	1	1	1	0	0	0
0	0	1	1	1	1	1	0	0	0	0	0
0	0	1	1	1	1	1	0	0	0	0	0
0	0	1	0	1	1	1	0	0	0	0	0
0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

1	1	1
1	1	1
1	1	1

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Candidate's Seat No : _____

MCA Sem.-3 Examination

2.Web Security

December-2024

Time : 3-00 Hours]

[Max. Marks : 50

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SECTION – I

- Q-1 Attempt the following: [15]
- a. Differentiate HTTPS and HTTP (Write 3 points). [03]
 - b. List and explain web services in brief. [03]
 - c. Short note on: Securing authentication. [03]
 - d. Give Full forms of following: [06]
 1. SSH [01]
 2. SOAP [01]
 3. HTTPS [01]
 4. UDDI [01]
 5. TLS [01]
 6. XML [01]
- Q-2 Attempt the following: [05]
- Explain encoding schemes also explain the importance of encoding schemes on the web.
- Q-2 **OR**
- Explain HTTP protocol with relevant diagrams.
- Q-3 Attempt the following: [05]
- Explain design flaws in authentication mechanisms and also explain how to overcome those design flaws?
- Q-3 **OR**
- Explain authentication mechanism.

SECTION – II

- Q-4 Attempt the following: [15]
1. Which encoding scheme is utilized for Indian Language Encoding? [02]
 2. List any 2 http methods. [02]
 3. List any 2 tools for Web enumeration. [02]
 4. List STATUS CODES of HTTP protocol. [02]

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5. Explain web security with appropriate example. [02]
 6. Give Full form of WSDL. [01]
 7. List any 2-web functionality. [02]
 8. Define following terms: [02]
 - 8.1 Webserver
 - 8.2 Web security
- Q-5 Explain various kinds of injection attacks with their prevention action. [05]
OR
- Q-5 List some points for finding and exploiting XSS vulnerability.
- Q-6 List and explain various points regarding the user actions. [05]
OR
- Q-6 Explain client-side injection, local privacy attacks, ActiveX control attacks, browser attacks.
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