

URUMU DHANALAKSHMI COLLEGE, TIRUCHIRAPPALLI – 19
[Accredited (Cycle-II) with 'A' Grade by NAAC]
DEPARTMENT OF COMPUTER SCIENCE

INSTRUCTION TO THE STUDENTS

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Steps for the submission of the assignment

1. Write the answers on sheets.
2. Take photo of these written sheets.
3. Open MS word, insert all the photos using insert menu.
4. Save the word file
5. Send the file to iimscsexam@udc.ac.in

On the first page of the assignment, write the following details

1. Name
2. Roll No
3. Regno
4. Class
5. Subject_name

If you need any further clarification, contact the HOD.

URUMU DHANALAKSHMI COLLEGE, TIRUCHIRAPPALLI – 19
[Accredited (Cycle-II) with ‘A’ Grade by NAAC]
DEPARTMENT OF COMPUTER SCIENCE
M.Sc., - II Year
CLOUD COMPUTING (P16CSE4D)

ASSIGNMENT-1

SUBMISSION- DATE: 16-04-2020

PART- A

ANSWER ALL THE QUESTIONS

1. What is Windows Azure cloud platform?
2. What do you understand by virtualization?
3. What is a Public cloud?
4. What do you understand by Hybrid clouds?
5. How is a cloud different from hosted IT services?
6. Define a cloud.
7. Why is cloud based model more economic?
8. Give one example of PaaS model.
9. How is a SaaS different from PaaS?
10. List the services offered by Amazon Cloud web service.

PART- B

ANSWER ALL THE QUESTIONS

11. a)What are the different components of Data Security in Cloud? What do you understand by Big Data in cloud?
b)What are the major distributed computing technologies led to cloud computing?
12. a)Discuss classification of virtualization at different levels.
b)Classify the various types of clouds.
13. a)What is SaaS in Cloud computing? Explain different categories of SaaS.
b)What are the security aspects provided with cloud?
14. a)Compare and contrast the cloud services being offered by Google and IBM.
b)Classify the various types of clouds.
15. a)What are the downsides to moving to cloud hosting? What is the SPI model of cloud?
b)What are the various identity and access management (IAM) practices followed for authentication, authorization, and auditing of the users accessing cloud services?

PART- C

ANSWER ALL THE QUESTIONS

15. What do you understand by hypervisors? How does cloud model provide virtualization?
16. Explain in detail the cloud security reference model. Explain the security risks associated with a cloud.
17. Suggest 05 steps to reduce security breaches in cloud computing.
18. what are the essential things to be taken by users for cloud computing platform?
19. Write in detail the advantages of cloud computing.
20. Write a note on :A] Google Cloud platform.B] Amazon Web Service.

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[Accredited (Cycle-II) with ‘A’ Grade by NAAC]
DEPARTMENT OF COMPUTER SCIENCE
II M.Sc., COMPUTER SCIENCE
WIRELESS SENSOR NETWORK (P16CS42)

ASSIGNMENT-1

SUBMISSION- DATE : 18-04-2020

PART- A

ANSWER ALL THE QUESTIONS

1. What is Wireless Sensor Network?
2. What are the challenges in WSN?
3. Define Sensors.
4. Define Fault Tolerance.
5. What is Scalability?
6. Define Source and Sink.
7. Define Tunneling.
8. What is MAC protocol?
9. What are advantages of Clustering?
10. What is Time Synchronization?

PART- B

ANSWER ALL THE QUESTIONS

11. a) Enumerate the applications of Wireless Sensor Network.
b) Describe the enabling technologies for WSN.
12. a) Discuss about the operating systems and execution environments.
b) Write short notes on optimization goals and figures of demerit.
13. a) Describe physical layer and transceiver design considerations.
b) Enumerate the MAC Protocols for WSN.
14. a) Explain about the Clustering.
b) Write short notes on Topology Control.
15. a) Write short notes on Node-Level Simulators.
b) Explain about the State-Centric Programming.

PART-C

ANSWER ALL THE QUESTIONS

16. Discuss the Characteristics requirements of WSN.
17. Elucidate the Network Architecture.
18. Discuss the Low duty cycle protocols and wakeup radio concepts.
19. Explain Localization and Positioning.
20. Discuss in detail about Berkeley Motes.

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DEPARTMENT OF COMPUTER SCIENCE
M.Sc., - II Year
DIGITAL IMAGE PROCESSING (P16CSE5C)

ASSIGNMENT-1

SUBMISSION- DATE: 20-04-2020

PART- A

ANSWER ALL THE QUESTIONS

1. What is an image?
2. Define Analog image.
3. Write about digital image.
4. What is the importance of sampling?
5. What does quantization mean?
6. What does resolution mean?
7. How do you represent a signal?
8. Illustrate the term binary image.
9. What does CCD stand for?
10. What is digital image processing?

PART- B

ANSWER ALL THE QUESTIONS

11. a) Describe the classification of digital images.
b) How many types of image are available? Explain it
12. a) What are the elements of image processing system?
b) Explain the operations of CCD Sensor.
13. a) Distinguish between a raster and a vector image.
b) Compare CCD with CMOS image sensor.
14. a) When will use the jpeg file format? Explain it.
b) What do you mean by aliasing in the context of image sampling? Explain.
15. a) Describe the difference between a bitmap and a vector image.
b) Compare JPEG and GIF.

PART- C

ANSWER ALL THE QUESTIONS

16. Explain the components of digital camera.
17. Describe the format followed by image file.
18. Write in detail the applications of digital image processing.
19. Describe the concept of Machband effect.
20. Illustrate the parts of human eye.

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DEPARTMENT OF COMPUTER SCIENCE
M.Sc., - II Year
CLOUD COMPUTING (P16CSE4D)

ASSIGNMENT-2

SUBMISSION- DATE: 24-04-2020

PART- A

ANSWER ALL THE QUESTIONS

1. How does cloud computing differ from Internet?
2. What is multi-tenancy and its advantage?
3. What is on-demand self-service and resource pooling?
4. Differentiate full-virtualization and para-virtualization.
5. Write any two characteristics of private and public cloud.
6. What is the role of network manager in IaaS service layer?
7. Enlist the services that are provided by Amazon.
8. Why is hypervisor important? What is its role?
9. Mention the names of phases in SaaS maturity model.
10. Give any two examples of self-service.

PART- B

ANSWER ALL THE QUESTIONS

11. a)What is SaaS in cloud computing? Explain the different categories of SaaS.
b)Explain the different types of Hardware Virtualization Techniques.
12. a)Why is virtualization important? Describe the characteristics of server virtualization and application virtualization.
b)What pros and cons of Cloud computing in comparisons of Distributed and Grid computing?
13. a)What is Service-Level Agreement (SLA)? Explain about the security controls classified in cloud computing.
b)What are different types of distributed computing systems before cloud computing?
14. a)Explain the cloud deployment models in detail. Also, outline their advantages and disadvantages while implementing an application.
b)Discuss the principles of security in cloud computing.
15. a)What is a middleware? How does it help to achieve compatibility between different software involved in cloud computing?
b)What are the advantages of "Software as a Service" (SaaS)? Explain with example.

PART- C

ANSWER ALL THE QUESTIONS

16. How many types of deployment models are used in cloud? Which one is best and why?
17. What is AWS? What types of Services does it provides?
18. Describe the architecture of windows Azure.
19. Discuss, in detail, identity management and access control that are needed for secure cloud computing.
20. Design the framework of common cloud management platform reference architecture and explain its components

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DEPARTMENT OF COMPUTER SCIENCE
II M.Sc., COMPUTER SCIENCE
WIRELESS SENSOR NETWORK (P16CS42)

ASSIGNMENT-2

SUBMISSION- DATE : 26-04-2020

PART- A

ANSWER ALL THE QUESTIONS

1. Define Actuators.
2. What are the three types of mobility?
3. Write any two applications of WSN.
4. Define Robustness.
5. Write any two examples for microcontrollers.
6. What is modulation?
7. Define Tunneling.
8. What is Angulations?
9. What is Clustering?
10. What is Time Synchronization?

PART- B

ANSWER ALL THE QUESTIONS

11. a) Write a short notes on challenges for Wireless Sensor Network.
b) Describe the enabling technologies for WSN.
12. a) Illustrate the energy consumption of sensor nodes.
b) Write short notes on Hardware Components.
13. a) Describe the Median Device Protocol.
b) Explain about Geographic Routing.
14. a) Write a short notes on sensor tasking and control.
b) Describe the concepts of time synchronization.
15. a) Explain about programming challenges in Wireless Sensor Network.
b) Explain about the node level software problems.

PART- C

ANSWER ALL THE QUESTIONS

16. Discuss in detail about sensor network scenario.
17. Explain the Gateway Concepts.
18. Elucidate the MAC protocols for Wireless Sensor Network.
19. Explain Geographic Routing.
20. Discuss in detail about Node-level simulators.

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DEPARTMENT OF COMPUTER SCIENCE
M.Sc., - II Year
DIGITAL IMAGE PROCESSING (P16CSE5C)

ASSIGNMENT-2

SUBMISSION- DATE: 28-04-2020

PART- A

ANSWER ALL THE QUESTIONS

1. What is the use of convolution operation?
2. Write about correlation operation.
3. What is z transform.
4. What is the use of Image Transform?
5. What is sinusoidal signal?
6. What is non-sinusoidal signal?
7. Write the mathematical notation for fourier transform.
8. Write short note Noise model.
9. What is inverse filtering?
10. What is image enhancement?

PART- B

ANSWER ALL THE QUESTIONS

11. a) Explain the concept of point operation.
b) Write about Local operation.
12. a) What are the uses of point operations?
b) When do you prefer histogram? Explain.
13. a) Write the properties of histogram equalization.
b) Illustrate : Thresholding
14. a) Write the goal of image enhancement.
b) What is bit plane?
15. a) Describe the operations of filter.
b) Are convolution filter linear? Justify your answer.

PART- C

ANSWER ALL THE QUESTIONS

16. Describe the limitations of Averaging filter.
17. Illustrate the operational procedure of low pass filter.
18. Explain any two orthogonal sinusoidal basic functions.
19. Write in detail about fourier transform.
20. Illustrate the properties of 2D-DFT.

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CLOUD COMPUTING (P16CSE4D)

ASSIGNMENT-3

SUBMISSION- DATE: 02-05-2020

PART- A

ANSWER ALL THE QUESTIONS

1. Differentiate Cloud Computing and Internet.
2. What is Multi-tenancy?
3. Give two names of popular Software as a Service solutions.
4. List some driving factor toward clouds.
5. Define SSL.
6. What are the benefits of identity management?
7. How cloud helps to analyse Big Data?
8. What is Eucalyptus?
9. What is Virtual private cloud?
10. Write any two characteristics of public cloud and hybrid cloud.

PART- B

ANSWER ALL THE QUESTIONS

11. a)What is SaaS in Cloud computing? Explain different categories of SaaS.
b)What are the major distributed computing technologies that led to cc?
12. a)Discuss classification of virtualization at different levels.
b)What are the security aspects provided with cloud?
13. a)Classify the various types of clouds.
b)What is virtualization in cloud computing? Outline the characteristics of server virtualization and application virtualization.
14. a)Discuss the following concepts in the context of cloud computing:
Billing and Metering Services Tooling and automation
b)Draw the framework of common cloud management platform reference architecture and explain its components.
15. a)Write different types of internal security breaches in cloud computing. Also, explain the steps to reduce cloud security breaches.
b)Design the framework of common cloud management platform reference architecture and explain its components.

PART- C

ANSWER ALL THE QUESTIONS

16. Design the architecture of PaaS and SaaS in cloud computing? Also, explain the different categories of PaaS and SaaS with example.
17. How many types of deployment models are used in cloud? Which one is best and why?
18. Discuss, in detail, the cloud security reference model and explain how cloud security is integrated into the design of application.
19. Explain the cloud deployment models, in detail. Also, outline their benefits and limitations while implementing and application.
20. Explain the following:
 - a. Digital Signatures
 - b. Goggle Cloud Platform

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WIRELESS SENSOR NETWORK (P16CS42)

ASSIGNMENT-3

SUBMISSION- DATE :04-05-2020

PART- A

ANSWER ALL THE QUESTIONS

1. What are Wireless Networks used for?
2. What are the advantages of sensors?
3. Define Transceiver.
4. What are the components of sensor node?
5. Difference between single-hop and multi-hop networks.
6. Write any two advantages of wakeup radio concepts.
7. What is Event mobility?
8. Define lateration.
9. What is Time Synchronization?
10. Define Tiny OS.

PART- B

ANSWER ALL THE QUESTIONS

11. a) Write a short notes on challenges for Wireless Sensor Network.
b) Explain applications of Wireless Sensor Network.
12. a) Illustrate the three types of mobility.
b) Explain concurrent programming and event based programming.
13. a) Describe the Median Device Protocol.
b) Explain about Efficient Routing.
14. a) Describe the concepts of time synchronization.
b) Write a short note on sensor tasking and control.
15. a) Explain about node level simulators.
b) Explain about the node level software problems.

PART-C

ANSWER ALL THE QUESTIONS

16. Discuss in detail about Characteristics requirements of WSN.
17. Explain about optimization goals and figures of merit.
18. Elucidate the low duty cycle protocols and wakeup concepts.
19. Explain about localization and positioning.
20. Discuss in detail about Berkeley Motes.

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DIGITAL IMAGE PROCESSING (P16CSE5C)

ASSIGNMENT-3

SUBMISSION- DATE: 06-05-2020

PART- A

ANSWER ALL THE QUESTIONS

1. Define Digital image processing.
2. What is meant by Image Quantization?
3. Give the auto correlation function for KL transform.
4. What do you mean by fast KL transform.
5. Define filtering.
6. What is meant by clipping.
7. Define pseudo inverse.
8. What do you mean by Wiener filter?
9. Define fixel coding.
10. What is meant by Wavlet transform?

PART- B

ANSWER ALL THE QUESTIONS

- 11.(a) Explain 2-D sampling theory.
(b) Write short note on Digital Processing systems.
- 12.(a) Explain the cosine transforms.
(b) Explain the properties of Haar transforms.
- 13.(a) Give a short note on Histogram modification.
(b) Write a short note on Directional Smoothing.
- 14.(a) Write short note Noise model.
(b) Explain inverse filtering.
- 15.(a) Write short note on vector.
(b) Write short note on histogram.

PART- C

ANSWER ALL THE QUESTIONS

16. Briefly explain the need for image compression.
17. Explain the classification of image compression schemes.
18. Explain the concept of high pass filter.
19. Explain mean filter.
20. Explain in detail about Median filter.