23127936

QP CODE: 23127936

Reg No : .....

Name : .....

BCA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2023

Third Semester

Bachelor of Computer Applications

COMPLEMENTARY COURSE - ST3CMT32 - ADVANCED STATISTICAL METHODS

2017 Admission Onwards

EB49E092

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What are the mean and SD of Bernoulli distribution?
2. What are the conditions under which Binomial distribution tends to Normal distribution?
3. What is the value of Z when the area under the normal curve is 0.5?
4. What are large and small samples?
5. What are the uses of standard error?
6. What is the degrees of freedom of t distribution?
7. Define interval estimation.
8. Define efficiency.
9. What is the 95% C .I. for population mean in sampling from normal population?
10. Define level of significance.
11. Give an example of a large sample test.
12. Define chi- square test.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Write down the situations where Binomial distribution can be applied.

14. The weekly wages of 1000 work men are normally distributed with a mean of 70 and SD of 5. Estimate the number of workers whose wages will be between 69 and 72.

15. In a Normal distribution 17% of the items are below 30 and 17% of the items are above 60. Find the mean & Standard deviation.

16. Write down the pdf of chi-square distribution?

17. Point out the relation between t and normal distribution.

18. Distinguish between point estimation and interval estimation.

19. Derive the confidence interval for proportion of a Binomial population.

20. How will you test the association between two attributes?

21. In two colleges affiliated to a university 46 out of 200 and 48 out of 250 candidates failed in an examination.If the percentage of failure in the university is 18 % ,examine whether the colleges differ significantly.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Between the hours of 8 and 10 PM, the average number of phone calls per minute coming into the switch board of a company is 1.5.Find the probability that during one particular minute there will be (i)no phone call (ii) exactly 3 calls (iii)at least 4 calls

23. Define F statistic. What is its pdf? Explain two important uses of it in statistical analysis.

24. Explain Neyman-Pearson approach method of testing statistical hypothesis.

25. In a cross between red flowered and the white flowered plants, it was found that of the 452 flowers obtained 119 were white and the rest red. Is this consistent with the hypothesis that red and white flowers are in the ratio3:1.

(2×15=30)

23126957

QP CODE: 23126957

Reg No : .....

Name : .....

B.Sc / BCA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2023

Third Semester

Core Course - CS3CRT07 - COMPUTER GRAPHICS

Common to Bachelor of Computer Applications & B.Sc Information Technology Model III

2017 Admission Onwards

CDF0126D

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What is the role of computer graphics in entertainment?
2. Define refresh buffer/Frame buffer.
3. What is the difference between impact and non-impact printers?
4. Define a circle , with distance relationship in Cartesian Coordinates.
5. Define Serif Type font.
6. Write short note on reflection.
7. Distinguish between window and view port.
8. List out the various Text clipping.
9. Why Perspective Projection appear more realistic?
10. How many data elements are there in quadtrees and octrees?
11. What is animation?
12. Explain about various computer animation functions.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. List two techniques used for producing color displays.
14. What is DDA Algorithm? Illustrate with appropriate figure.
15. Using Bresenham's Line Drawing Algorithm , digitlize the line with endpoints (20,10) and (30,18).
16. Distinguish translation and rotation.
17. Distinguish grid and gravity field.
18. Explain Sweep representation with the help of figures.
19. Compare CSG and Ray-casting Methods.
20. Explain various computer animation languages.
21. What is morphing?

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Discuss about various flat panel displays.
23. Explain Cohen Sutherland line clipping algorithm with examples.
24. Explain Polygon Surfaces and Polygon tables,illustrate with figures.
25. List and explain various motions specification in computer animation.

(2×15=30)

QP CODE: 23127877

Reg No : .....

Name : .....

B.Sc /BCA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2023

Third Semester

Core Course - CS3CRT08 - DATA STRUCTURE USING C++

Common to Bachelor of Computer Applications, B.Sc Computer Applications Model III Triple Main, B.Sc Computer Science Model III, B.Sc Information Technology Model III

2017 Admission Onwards

D10C8A9C

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Write examples for primitive and non-primitive data structure.
2. Why binary search operation is better for lager arrays? Justify.
3. Which are the three types of expressions?
4. What is the need of a circular queue?
5. What is an empty list?
6. What are the steps involved in deleting the first node from a linked list?
7. What is a circular linked list?
8. What is a binary search tree ?
9. How will you represent a binary tree using (A>B)||(C ?
10. Discuss the role of records in files.
11. Briefly describe the concept of hashing?
12. How collision is occurred in hashing tables?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain merging operation performed on an array with an algorithm or example.
14. Discuss the difference between sparse matrix and normal matrix.
15. Discuss algorithm for stack operation?
16. Write a algorithm/program for various operations performed on double ended queues?
17. How can we dynamically implement stack and queue?
18. Explain garbage collection.
19. What are tree? What are different terminologies of tree? Describe.
20. Explain strictly binary tree with an example.
21. Explain sequential file structure.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain quick sort algorithm with an example.
23. Explain operations performed on queues and limitations of linear queues.
24. Write note on Binary tree. Explain how an expression can be converted into BT with an example and diagram
25. Explain the following : 1) Linked File Organization 2) Inverted File Organization

(2×15=30)

23126960

QP CODE: 23126960

Reg No : .....

Name : .....

BCA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2023

Third Semester

Bachelor of Computer Applications

CORE COURSE - CA3CRT01 - MICROPROCESSOR AND PC HARDWARE

2017 Admission Onwards

C34F06EB

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Define microprocessor.
2. Define instruction cycle.
3. What is an instruction?
4. Explain instruction format of 8085.
5. What is the use of branching instruction? Give an example.
6. Define motherboard .
7. What is processor bus ?
8. How we can select a motherboard ?
9. What is meant by recording media of a disk ?
10. What is the function of logic board in HDD ?
11. What is NTFS ?
12. Compare extended and expanded memory .

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. What is maskable and non-maskable interrupts ? Explain with examples.

14. Explain hardware and software interrupts.

15. Define addressing mode and describe the addressing modes of Intel 8085 .

16. What is meant by co-processor ? Explain with an example.

17. Write the importance of BIOS in booting procedure.

18. Briefly explain about chipset and super I/O chip .

19. Briefly explain the harddisk operation.

20. Compare and contrast FAT and FAT32.

21. Write note on extended memory .

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Draw the block diagram and explain the components of Intel 8085 .

23. Write note on (a) ISA (b) EISA (c) MCA

24. Explain the different components of HDD .

25. Discuss about each one (a) Convensional memory, (b) UMA, (c)HMA

(2×15=30)

QP CODE: 23126962

Reg No : .....

Name : .....

BCA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2023

Third Semester

Bachelor of Computer Applications

CORE COURSE - CA3CRT02 - OPERATING SYSTEMS

2017 Admission Onwards

19CA4939

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What do you mean by multi-programming?
2. Write about GUI.
3. Explain the job queue and device queue.
4. What you mean by process termination?
5. What you mean by CPU utilization?
6. What is critical section of a process?
7. What are the basic operations of Semaphore?
8. What is First fit Strategy?
9. What is segmentation ?
10. What is the performance of demand paging ?
11. Distinguish between index file and relative file.
12. What is meant by disk scheduling ?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Distinguish between Time sharing and Batch processing OS.

14. Write about OS Services.

15. Explain direct and indirect communication in interprocess communication.

16. Explain about Multilevel queue scheduling.

17. Explain the dining philosophers problem of synchronization.

18. Discuss about the necessary conditions for a deadlock.

19. What are the methods for deadlock recovery? Explain.

20. Explain basic page replacement with the help of a diagram.

21. Explain different typeds of allocation methods.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain types of system calls.

23. With a neat diagram explain Process state and Process Control block.

24. Explain different methods for deadlock avoidance.

25. Explain paging hardware.

(2×15=30)