(6 pages)

2714 A/ECSGC31 NOVEMBER 2017

DIGITAL IMAGE PROCESSING

(For those who joined in July 2015-16)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ are the foundation for representing image in various degrees of resolution.
   (a) Image acquisition
   (b) Image enhancement
   (c) Image restoration
   (d) Wavelets

2. _____ is the total amount of energy flows from the light source, and it is usually measured in watts.
   (a) Luminance (b) Brightness
   (c) Radiance (d) Photon

3. _____ is used in preprocessing tasks, such as removal of small details from an image prior to large object extraction, and bridging of small gaps in lines or curves.
   (a) Blurring
   (b) Box filter
   (c) Averaging filter
   (d) Max filter

4. DFD stands for _____.
   (a) Discrete Force Transform
   (b) Discrete Fourier Transform
   (c) Dynamic Fourier Transform
   (d) Discrete Fourier Transfer

5. _____ noise models are used frequently in practice.
   (a) Gaussian
   (b) Uniform
   (c) Exponential
   (d) Periodic

6. A _____ filter rejects frequencies is predefined neighborhoods about a center frequency.
   (a) Bandpass (b) Bandreject
   (c) Notch (d) Mean

7. _____ doding, assigns fixed-length code words to variable length sequences of source symbols.
   (a) LZW (b) Arithmetic
   (c) Huffman (d) Wavelet

8. MPEG stands for _____.
   (a) Motion Pictures Expert Group
   (b) Motion Pixel Expert Group
   (c) Motion Pictures Evaluation Group
   (d) Motion Pseudo Expert Group

9. _____ generally fuses narrow breaks and long thin gulfs, eliminates small holes, and fills gaps in the contour.
   (a) Opening (b) Closing
   (c) Erosion (d) Dilation

10. A _____ is a family of patterns that share some common properties.
    (a) Pattern class (b) Line class
    (c) Point class (d) Circle class

PART B — (5 × 7 = 35 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) What are the fundamental steps in digital image processing? Explain.

Or

(b) Describe the structure of human eye.

12. (a) Explain the fuzzy techniques for intensity transformations.

Or

(b) Discuss about the smoothing spatial filters.

13. (a) Explain the model of the image degradation/restoration process.

Or

(b) Describe the Gaussian noise and Rayleigh noise probability density functions.

14. (a) What is the purpose of color model? Write a short note on CMY and CMYK color models.

Or

(b) What is digital image watermarking? Describe.

15. (a) What are the properties of opening and closing operation satisfy the morphological algorithms? Explain.

Or

(b) What is hole filling? Explain.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What is digital image processing? Explain the origins of digital image processing.

17. Discuss about the basic intensity transformation functions.

18. What are the three principal ways to estimate the degradation function for use in image restoration? Explain.

19. Discuss about the discrete wavelet transform and continuous wavelet transform in one dimension.

20. Explain the two basic approaches for the recognition of boundary shapes based on string representation.

———————

(6 pages)

2714 B/ECSGC32 NOVEMBER 2017

SOFT COMPUTING

(For those who joined in July 2015-16 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ is an information processing model that is inspired by the way biological nervous systems, such as the brain, process information.
   (a) Artificial neural network
   (b) Fuzzy logic
   (c) Genetic algorithm
   (d) Data Warehousing

2. _____ deals with approximate models and gives solution to complex problems.
   (a) Soft computing (b) Hard computing
   (c) Data mining (d) Symbolic logic

3. The Adaline network may be trained using delta rule. The delta rule may also be called as _____ rule.
   (a) Least mean square
   (b) Average
   (c) Median
   (d) Standard deviation

4. Madaline is _____.
   (a) Multiple adaptive linear neurons
   (b) Most Adaptive linear neurons
   (c) Multiple Activate linear neurons
   (d) Most Activate linear neurons

5. A _____ is a collection of a distinct objects.
   (a) Classical set (b) Relation
   (c) Functions (d) Product

6. $A \cup B = B \cup A$ is _____ law.
   (a) Commutative (b) Associative
   (c) Transitive (d) Idempotent

7. The chromosome is subdivided into _____.
   (a) Fitness (b) Genes
   (c) Population (d) Phenotype

8. _____ encoding is only useful for ordering problems.
   (a) Permutation (b) Value
   (c) Tree (d) Hexadecimal

9. _____ integrates both spatial and spectral data to hold the superior characteristics of multisenser images and improve the knowledge of scene.
   (a) Image fusion
   (b) Image fission
   (c) Color fission
   (d) Displacement fusion

10. _____ crossover is performed by picking out parents from the mating pool and choosing a constant number of their links as offspring, without any evaluation of those links.
    (a) Link (b) Classical
    (c) Parent (d) Grouping

PART B — (5 × 7 = 35 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) What is neural network? Explain the advantages of neural networks.

Or

(b) Explain the evolution of neural networks.

12. (a) What is the importance of threshold in perceptron network? Explain the applications of perceptron network.

Or

(b) Explain the training algorithm used in Adaline network.

13. (a) State the importance of fuzzy sets.

Or

(b) Explain the graphical representations of fuzzy relations.

14. (a) Compare genetic programming and genetic algorithm.

Or

(b) Write short note on Holland classifier system.

15. (a) Explain the fusion approach of multispectral images with SAR image for flood area analysis.

Or

(b) Write a short note on genetic algorithm based internet search technique.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What are the five basic types of neuron connection architectures? Explain.

17. Draw the architecture of back-propagation algorithm and explain it.

18. Discuss the operations of crisp sets.

19. With a neat flowchart, explain the operations of genetic programming.

20. Describe the optimization of traveling salesman problem using genetic algorithm approach.

———————

13. (a) Explain the various applications of classification in information retrieval.

Or

(b) Describe the Bernoulli model of NB algorithm.

14. (a) Explain the machine learning methods in ad hoc information retrieval.

Or

(b) What is flat clustering? Explain.

15. (a) What is divisive clustering? Explain.

Or

(b) Explain the three labeling methods to a K-means clustering.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the different forms of spelling correction.

17. Write a faster algorithm for vector space scores and explain it.

18. Write the K-nearest neighbor algorithm and explain it.

19. Explain the evaluation of clustering.

20. Discuss in detail about the optimality of hierarchical agglomerative clustering.

———————

(5)

2714 C/ECSGT31 NOVEMBER 2017

INFORMATION RETRIEVAL

(For those who joined in July 2015-16 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. In ———— search, the system has to provide search over billions of documents stored on millions of computers.

   (a) Binary (b) Linear

   (c) Sequential (d) Web

2. ———— is the process of chopping character streams into tokens.

   (a) Tokenization (b) Grouping

   (c) Separation (d) Lexical

3. Data about a document is called ————.

   (a) Atom (b) Metadata

   (c) Entity (d) Attribute

4. The representation of a set of documents as vectors in a common vector space is known as the _____.

(a) Dot product
(b) Vector space model
(c) tf-idf
(d) Length normalization

5. Classification using standing queries is also called _____.

(a) Filtering (b) Clustering
(c) Partitioning (d) Grouping

6. _____ is the process of selecting a subset of the terms occurring in the training set and using only this subset as features in text classification.

(a) Classification (b) Clustering
(c) Feature selection (d) Searching

7. The distance between two points that is calculated using Pythagoras theorem is _____.

(a) cartesian distance
(b) eucledian distance
(c) extendable distance
(d) heuristic distance

8. A _____ decision assigns two similar documents to the same cluster.

(a) true-positive (b) true-negative
(c) false-positive (d) false-negative

9. A _____ is a set of points that are completely linked with each other.

(a) Clique (b) Component
(c) Group average (d) Soft-link

10. _____ clustering techniques starts with all records in one cluster and then try to split that cluster into small pieces.

(a) Agglomerative (b) Divisive
(c) Partition (d) Numeric

PART B — (5 × 7 = 35 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) What is the goal of stemming and lemmatization? Describe.

Or

(b) Explain about the search structures for dictionaries.

12. (a) Why is the idf of a term always finite? Explain.

Or

(b) Write the basic algorithm for computing vector space scores.

(7 pages)

2465/TMCCN31 NOVEMBER 2017

INSURANCE MANAGEMENT

(For those who joined in July 2008 and after)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. காப்பீடு ———— ஐ பாதுகாப்பதற்காக ஆகும்.

(அ) மதிப்பு

(ஆ) சேமிப்பு

(இ) இலாபம்

(ஈ) சொத்து பொருளாதார மதிப்பு.

Insurance is related to protection of ————

(a) status

(b) savings

(c) profit

(d) economic value of assets.

2. LICஇன் பிரிமியம் வருமான வரி சட்டம் ———— படி கழிக்கப்படலாம்.

(அ) 15 (ஆ) 25

(இ) 80 (ஈ) 140.

Premium of LIC policy is eligible for IT deduction U/S ————

(a) 15 (b) 25

(c) 80 (d) 140.

3. ———— காப்பீடு பாலிசிக்கு பிரிமியம் குறைவாக இருக்கும்.

(அ) காலம் (ஆ) முழு ஆயுள்

(இ) திரும்ப பணம் (ஈ) ஆகாய பயணம்.

Premium for lower for ———— insurance policy.

(a) term (b) whole life

(c) money back (d) flight.

4. காப்பீடு பிரிமியம் செலுத்துதல் ———— ஆக இருக்காது.

(அ) வருடாந்திரம் (ஆ) காலாண்டு

(இ) மாதாந்திரம் (ஈ) தினசரி.

Mode of premium payment cannot be ————

(a) yearly (b) quarterly

(c) monthly (d) daily.

5. ———— இல் பாலிசி ஸ்டாம்ப் இடப்பட வேண்டும்.

(அ) கரன்சி (ஆ) பாலிசி

(இ) பெறுதல் சீட்டு (ஈ) அஞ்சல்.

Policy stamp needs to be affixed on ————

(a) currency (b) policy

(c) receipt (d) postal.

6. ———— பிரிமியம் என்பது மொத்த பிரிமியம் எனப்படும்.

(அ) அலுவலக (ஆ) பிழை

(இ) நிகரம் (ஈ) இலாபம்.

Gross premium is also called as ———— premium.

(a) office (b) false

(c) net (d) profit.

7. தீ காப்பீடு ———— வருடத்திற்கு தரப்படும்.

(அ) பத்து (ஆ) ஐந்து

(இ) மூன்று (ஈ) ஒரு.

Fire insurance is issued for a period of ———— year.

(a) ten, (b) five

(c) three (d) one.

8. காப்பீட்டாளரின் சொத்திற்கு மூன்றாம் நபர் தீயிடல் என்பது ————

(அ) எரியூட்டல் (ஆ) கொல்லுதல்

(இ) நேர்மை (ஈ) உண்மை.

Setting fire on the property of the insured by third party is ————

(a) Arson (b) Killing

(c) Honesty (d) Truth.

9. கப்பலில் சரக்கிற்கு காப்பீடு செய்வது ———— காப்பீடு.

(அ) சுமை கூலி (ஆ) கார்கோ

(இ) பொறுப்பு (ஈ) இலாபம்.

Safety of goods in ship insurance is ———— insurance.

(a) freight (b) cargo

(c) liability (d) profit.

10. இந்தியாவில் காப்பீடு சட்டம் ———— ஆண்டில் இயற்றப்பட்டது.

(அ) 1907 (ஆ) 1938

(இ) 1989 (ஈ) 2010.

In India, insurance act was passed in ————

(a) 1907 (b) 1938

(c) 1989 (d) 2010.

PART B — (5 × 7 = 35 marks)

Answer ALL questions.

All questions carry equal marks.

11. (அ) காப்பீட்டின் பகுப்புகளை அலசுக.

Analyse the classification of insurance.

Or

(ஆ) காப்பீட்டின் விரிவுறுதலை வழி அமைக்கவும்.

Trace the evolution of insurance.

12. (அ) ஆயுள் காப்பீடு பாலிசியில் இயல்புகளை எடுத்தெழுதுக.

Narrate the feature of life insurance policy.

Or

(ஆ) அசைன்மெண்ட் பற்றி சிறு குறிப்பு வரைக.

Write a short note on "Assignment".

13. (அ) மறுகாப்பீட்டின் தேவையை விளக்குக.

Explain the need for "Re-insurance".

Or

(ஆ) பல்வகை கடல் நட்டங்களை அலசுக.

Analyse the various marine losses.

14. (அ) பொது காப்பீட்டில் தனியார்மயமாக்கலின் தாக்கத்தைக் குறிப்பிடுக.

Mention the impact of privatization of general insurance.

Or

(ஆ) காப்பீடு தனியார்மயமாக்கலின் தேவையை எடுத்தெழுதுக.

Narrate the need for privatization of insurance.

15. (அ) கிராமப்புற காப்பீட்டின் அவசியத்தை விளக்குக.

Explain the importance of rural insurance.

Or

(ஆ) IRDA-இன் அதிகாரங்களை விவாதி.

Discuss the process of IRDA.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

All questions carry equal marks.

16. காப்பீட்டின் அவசிய கொள்கைகளை அலசுக.

Analyse the important principles of insurance.

17. LIC-இல் கோரல் தீர்க்கும் முறையை விளக்குக.

Explain the claim settlement procedure in LIC.

18. பல்வகை தீ காப்பீடு பாலிசி வகைகளை விவாதி.

Discuss the various types of fire policies.

19. காப்பீட்டில் தனியாரின் பங்கினை சோதிக்கவும்.

Examine the role of private insurance firms in insurance.

20. IRDA-இன் பணிகளை விவரி.

Describe the functions of IRDA.

———————

14. (a) What are the HMM parameters? Explain.

Or

(b) Write down the procedure for Multi-case problems.

15. (a) Explain about the Karhunen-Loeve transformation.

Or

(b) What is multidimensional scaling for feature extraction? Explain.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the different paradigms for pattern recognition.

17. Explain the important steps in the clustering process.

18. Describe the linear discriminant functions and decision hyperplanes.

19. Explain the Markov models for classification.

20. Write the ordinal scaling algorithm and explain it.

———————

(9)

7862/ECSGC41

APR

PATTERN RECOGNITION

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———————— measures the distance between two strings.

(a) Distance (b) Weighted Distance

(c) Edit distance (d) Mean distance

2. The ———————— algorithm can be applied in cleaning data.

(a) search (b) pattern recognition

(c) learning (d) clustering

3. The ———————— algorithm for partitioning, where each cluster's center is represented by the mean value of the objects in the cluster.

(a) k-means (b) Genetic method

(c) Neural method (d) Fuzzy-set

4. Which of the following is a clustering algorithm?
   (a) A priori (b) CLARA
   (c) Pincer-Search (d) FP-growth

5. _____ algorithm for learning the weight vector when the classes are linearly separable.
   (a) Perceptron (b) Associative
   (c) BVM (d) SSM

6. MSE stands for _____
   (a) Mean Sum Error
   (b) Mean Squared Error
   (c) Mean Sum Estimate
   (d) Mean Squared Estimate

7. A _____ is an algorithm for the classification of both linear and nonlinear data.
   (a) SVM (b) Genetic algorithm
   (c) Regression (d) Backpropagation

8. _____ is a binary classifier.
   (a) SVM (b) AVM
   (c) BVM (d) CVM

9. The goal of _____ is to find the most important features i.e. those with the highest variation.
   (a) Feature extraction (b) Quantization
   (c) Vector algebra (d) Genetic algorithm

10. PCA involves a mathematical procedure that transforms a number of correlated variables into smaller number of uncorrelated variables called _____.
   (a) Primary components
   (b) Principal components
   (c) Peephole components
   (d) Covariance components

PART B — (5 × 7 = 35 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) How to measure distance measure and weighted distance measure? Explain.

Or

(b) Explain about the mutual Neighbourhood distance.

12. (a) Write down steps for k-Means clustering algorithm.

Or

(b) Explain about the incremental clustering algorithm.

13. (a) What is Bias-Variance Dilemma? Explain.

Or

(b) Explain about the Perceptron algorithm.

(6 pages)

7863/ECSGC42 APRIL 2018

ADVANCED SYSTEM ARCHITECTURE

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. In the _____ mechanism, a complete path has to be established prior to the start of communication between a source and a destination.
   (a) Circuit switching
   (b) Packet switching
   (c) Page switching
   (d) Hybrid switching

2. _____ do not provide a direct link from every node to every other node in the network.
   (a) Limited connection networks
   (b) Completely connected networks
   (c) Fully connected networks
   (d) Partially connection networks

3. In the _____ system, each processor has part of the shared memory attached. The memory has a single address space.
   (a) Non-uniform Memory Access
   (b) Uniform Memory Access
   (c) Hierarchy Memory Access
   (d) Parallel Memory Access

4. In _____ protocol a valid block can be owned by memory and shared in multiple caches that can contain only the shared copies of the block.
   (a) Write-Invalidate and Write-Back
   (b) Write-Update and Partial Write-Through
   (c) Write-Update and Write-Back
   (d) Directory based

5. PRAM stands for _____.
   (a) Parallel Random Access Machine
   (b) Parallel Read Access Machine
   (c) Parallel Random Access Model
   (d) Parallel Read Access Model

6. _____, multiple processors can read from the same memory location simultaneously.
   (a) Exclusive read
   (b) Exclusive write
   (c) Concurrent Read
   (d) Concurrent Write

7. _____ is an operation by which multiple values are reduced into a single value.
   (a) Reduction (b) Multiplication
   (c) Division (d) Addition

8. There is only one level of hierarchy in _____ structure.
   (a) Supervisor-Worker
   (b) Hierarchy
   (c) Network
   (d) Parallel

9. In _____ scheduling, some information may not be known before the program executes.
   (a) deterministic (b) non-deterministic
   (c) probablistic (d) closed

10. _____ can be used in scheduling heuristics to reduce the effect of communication delay.
    (a) Task duplication (b) Task allocation
    (c) Task creation (d) Task addition

PART B — (5 × 7 = 35 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain about the SIMD architecture model.

Or

(b) Describe the limited connection networks.

12. (a) Explain about the bus-based symmetric multiprocessors.

Or

(b) What are the routing potential problems in message passing system? Explain.

13. (a) What are the different modes for read and write operations in a PRAM? Explain.

Or

(b) Write the algorithm for sorting using CRCW PRAM and analyze it.

14. (a) Describe the PVM environment and application structure.

Or

(b) What are the parameters for reduction operations? Explain.

15. (a) Explain briefly about the scheduling In-Forests/Out-Forests Task Graphs.

Or

(b) Discuss the scheduling in heterogeneous environments.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What are the three topologies in switch-based interconnection networks? Explain.

17. Explain the classification of shared memory system.

18. Discuss the relationships among P, NP, NP-complete, NP-hard, NC, and P-complete.

19. Explain the different types of communication among MPI tasks.

20. Describe the task allocation model.

(6 pages)

7863/ECSGC42 APRIL 2018

ADVANCED SYSTEM ARCHITECTURE

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. In the ———— mechanism, a complete path has to be established prior to the start of communication between a source and a destination.
   (a) Circuit switching
   (b) Packet switching
   (c) Page switching
   (d) Hybrid switching

2. ———— do not provide a direct link from every node to every other node in the network.
   (a) Limited connection networks
   (b) Completely connected networks
   (c) Fully connected networks
   (d) Partially connection networks

3. In the ———— system, each processor has part of the shared memory attached. The memory has a single address space.
   (a) Non-uniform Memory Access
   (b) Uniform Memory Access
   (c) Hierarchy Memory Access
   (d) Parallel Memory Access

4. In ———— protocol a valid block can be owned by memory and shared in multiple caches that can contain only the shared copies of the block.
   (a) Write-Invalidate and Write-Back
   (b) Write-Update and Partial Write-Through
   (c) Write-Update and Write-Back
   (d) Directory based

5. PRAM stands for ————.
   (a) Parallel Random Access Machine
   (b) Parallel Read Access Machine
   (c) Parallel Random Access Model
   (d) Parallel Read Access Model

6. ————, multiple processors can read from the same memory location simultaneously.
   (a) Exclusive read
   (b) Exclusive write
   (c) Concurrent Read
   (d) Concurrent Write

7. ———— is an operation by which multiple values are reduced into a single value.
   (a) Reduction (b) Multiplication
   (c) Division (d) Addition

8. There is only one level of hierarchy in ———— structure.
   (a) Supervisor-Worker
   (b) Hierarchy
   (c) Network
   (d) Parallel

9. In ———— scheduling, some information may not be known before the program executes.
   (a) deterministic (b) non-deterministic
   (c) probablistic (d) closed

10. ———— can be used in scheduli heuristics to reduce the effect of communicatio delay.
    (a) Task duplication (b) Task allocation
    (c) Task creation (d) Task addition

PART B — (5 × 7 = 35 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain about the SIMD architecture mod

    Or

    (b) Describe the limited connection networks.

12. (a) Explain about the bus-based symme multiprocessors.

    Or

    (b) What are the routing potential problem message passing system? Explain.

13. (a) What are the different modes for read write operations in a PRAM? Explain.

    Or

    (b) Write the algorithm for sorting using C PRAM and analyze it.

(14)

14. (a) Describe the PVM environment and application structure.

Or

(b) What are the parameters for reduction operations? Explain.

15. (a) Explain briefly about the scheduling In-Forests/Out-Forests Task Graphs.

Or

(b) Discuss the scheduling in heterogeneous environments.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What are the three topologies in switch-based interconnection networks? Explain.

17. Explain the classification of shared memory system.

18. Discuss the relationships among P, NP, NP-complete, NP-hard, NC, and P-complete.

19. Explain the different types of communication among MPI tasks.

20. Describe the task allocation model.

(6 pages)

7865/ECSGT41 APRIL 2018

BIG DATA ANALYTICS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The number of rows/records/tuples in a relation is called the _____ of a relation.
   (a) degree
   (b) cardinality
   (c) attribute
   (d) entity

2. _____ is the characteristic of data dealing with its retention.
   (a) Veracity
   (b) Variability
   (c) Volatility
   (d) Validity

3. _____ is the process of examining big data to uncover patterns, unearth trends and find unknown correlation and other useful information to make faster and better decisions.
   (a) Big Data Analytics
   (b) Data Warehousing
   (c) DBMS
   (d) Data mining

4. In _____ architecture, a common central memory is shared by multiple processors.
   (a) Shard disk
   (b) Shared Nothing
   (c) Shared Memory
   (d) Shared Processor

5. _____ is an open-source project of the Apache foundation.
   (a) HDFS (b) Hadoop
   (c) YARN (d) NoSQL

6. _____ is a data warehousing layer on top of Hadoop.
   (a) Hive (b) Sqoop
   (c) Pig (d) HBase

7. The default metastore for Hive is _____
   (a) Driver
   (b) Derby
   (c) System catalog
   (d) Command Line interface

8. Combiner is also known as _____
   (a) local reducer
   (b) Partioner
   (c) Compression
   (d) Mapper

9. R is _____ tool.
   (a) Financial
   (b) database
   (c) statitical
   (d) mathematical

10. Coolaborative filtering can be defined as _____ Navigation.
    (a) Data
    (b) Numeric
    (c) Social
    (d) Cinema

SECTION B — (5 × 7 = 35 marks)

Answer ALL questions, choosing either (a) or (b)

11. (a) What is structured data? Explain about the ease of working with structured data.

Or

(b) Define: Big Data? What is changing in the realism of big data? Explain.

12. (a) What is big data analytics? Explain.

Or

(b) Explain about the symmetric multiprocesso system and massively parallel processing.

13. (a) What is NOSQL? Explain the types of NoSQL databases.

Or

(b) Explain how managing resources and applications with Hadoop.

14. (a) Explain about the Hive Query lanaguge.

Or

(b) Write a five function to convert the values of a field to uppercase.

15. (a) Write down the steps involved in K-means algorithm.

Or

(b) Explain the advantages and disadvantages of decision tree.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the components of a typical Hadoop Environment.

17. What is BASE? Explain the features of any two top analytics tools.

18. What is Hadoop? Explain the features and advantages of Hadoop.

19. Explain about the Mapper, Reducer, and Combiner.

20. What is collaborative filtering? Explain the history of collaborative filtering.

(17)

Reg. No: | | | | | | | | | |

G .T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)
(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - NOVEMBER 2017

Class : **I M.Sc. Computer Science**
Paper Code : **17PCSC14**
Title of the Paper : **DATABASE MANAGEMENT SYSTEM**

Date : **15.11.2017**
Time : **10.00 a.m to 01.00 p.m**
Max Marks : **75**

Section – A **[10 X 1 = 10]**

[Answer ALL the Questions]

1. A ____ is a language that enables users to access or manipulate data as organized by appropriate data model.
   [a] Entity [b] Attribute [c] DML [d] DDL
2. The _____ diagram shows the interaction between users & the system.
   [a] use case [b] class [c] activity [d] implementation
3. A ____ is a set of one or more attributes that, taken collectively, allow us to identify uniquely a tuple in the relation.
   [a] primary key [b] super key [c] query [d] constraints
4. _____ are functions that take a collection of values as input and return a single value.
   [a] Query [b] Entity [c] Keys [d] Aggregate function
5. A domain is _____ if elements of the domain are considered to be invisible units.
   [a] function [b] atomic [c] dependence [d] attribute
6. The transformation of a nested relation into a form with fewer relation valued attributes is called _____.
   [a] unnesting [b] clause [c] array [d] multiset
7. A ____ is a unit of program execution that accesses and possibly updates various data items.
   [a] durability [b] transaction [c] atomic [d] isolation
8. A ____ can be implemented as a process that receives messages from transactions and send messages in reply.
   [a] protocols [b] transaction [c] lock manager [d] graph
9. _____ parallelism refers to reducing the time required to retrieve relations from disk by partitioning the relations over multiple disks.
   [a] Inter query [b] Intra query [c] Inter operation [d] I/O
10. A system is partitioned if it has been split into two or more subsystems called _____.
    [a] protocol [b] commit [c] partitions [d] route

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11. a) What is the purpose of Database Systems?

[OR]

b) Write a note on Constraints in ER Enterprise schema

(18)

12. a) What are the additional basic operations in SQL

[OR]

b) Describe the Aggregate functions in SQL.

13. a) Write a note on Database Design Process

[OR]

b) Describe array and multiset types in SQL

14. a) Discuss the implementation of isolatin levels

[OR]

b) Designate validation-based protocols

15. a) Describe I/O Parallelism.

[OR]

b) Write a note on Distributed query processing.

Section – C **[3 X 10 = 30]**

[Answer Any THREE Questions]

16. Describe in detail about Database Design
17. Write a brief note on Modificaition of the database.
18. Deliberate a note on decomposition using functional dependencies.
19. Describe a detailed note on lock-based protocols.
20. Discuss in detail Intra operation parallelism.

19

Reg. No: | | | | | | | | | |

G .T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)
(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - NOVEMBER 2017

Class : **I M.Sc.,Computer Science**
Paper Code : **17PCSC13**
Title of the Paper : **Data Structures and Algorithms**

Date : **13.11.2017**
Time : **10.00 a.m to 01.00 p.m**
Max Marks : **75**

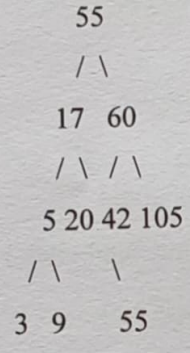
Section – A **[10 X 1 = 10]**

[Answer ALL the Questions]

1. Given a binary search tree, which traversal type would print the values in the nodes in sorted order?

   [a] Preorder [b] Postorder [c] Inorder [d] None of the above

2. Is this a binary search tree?



   [a] Yes [b] No [c] Partially Yes [d] None of the above

3. Which of the following happens before rehashing?

   [a] The Hash table is close to FULL [b] Insertion, deletion and search take long time

   [c] No more insertion possible [d] All of the above

4. Which of the following mechanism ensures high priority task at the head of queue?

   [a] Priory Queue [b] Priority Linked List [c] Both [d] None

5. Which of the following algorithm handles sorting of large amount of data?

   [a] Insertion Sort [b] Shell Sort [c] Heap Sort [d] None

6. The time complexity of a sorting algorithm depends on

   [a] Number of comparisons [b] Output of algorithm [c] Both [d] None

7. Which of the following is the advantage of adjacency matrix?

   [a] O(1) time to find an edge [b] O(V2) storage [c] Both [d] None

8. The topological sort is a _____

   [a] Undirected Acyclic graph [b] Directed Acyclic graph [c] Directed Cyclic graph [d] N

9. Turnpike Reconstruction Problem is _____

   [a] Systematic way to do an exhaustive search [b] Taking advantage of pruning when possible

   [c] Both [d] None

20

10. Which of the following is not a greedy problem?
[a] Knapsack problem [b] Euler Circuit problem [c] Job Sequence Problem [d] Both A and B

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11. a) Explain the two ways of representing Single Linked list in memory

[OR]

b) Explain the importance of B-Tree using diagrams and an example

12. a) Explain separate chaining hashing algorithm with an example

[OR]

b) Explain briefly about binary heap and its applications

13. a) Explain in detail the algorithm for heap sort with an example

[OR]

b) Demonstrate the insertion sort results for each insertion for the following initial array of elements: 25, 6, 15, 12, 8, 34, 9, 18, 2

14. a) Explain an algorithm for All-Pairs shortest path with its properties

[OR]

b) Explain about growing a minimum spanning tree. Give an example

15. a) Discuss the problem and solution of Approximate Bin Packing approach. Give an example

[OR]

b) Give an application of Huffman Code

Section – C **[3 X 10 = 30]**

[Answer Any THREE Questions]

16. Explain the three binary tree traversals using sufficient examples.
17. Give a comparative account on linear and quadratic probing with an example
18. Explain quick sort algorithm with an example. Derive the time complexity and order of time
19. Explain Dijkstra's Algorithm of finding shortest path in a weighted digraph. Give a suitable exa
20. Explain back tracking algorithm with an example.

(21)

Reg. No: | | | | | | | | | |

G.T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)
(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - NOVEMBER 2017

Class : **I M.Sc., Computer Science**
Paper Code : **17PCSC12**
Title of the Paper : **Digital Principles & Computer Organisation**

Date : **09.11.2017**
Time : **10:00 am to 01:00 pm**
Max Marks : **75**

Section – A **[10 X 1 = 10]**

[Answer ALL the Questions]

1. The largest number this 8-bit register can hold is binary 11111111 or decimal ___.
   [a] 64 [b] 128 [c] 255 [d] 1024

2. The octal equivalent of $(13)_{10}$ is
   [a] 18 [b] 14 [c] 15 [d] 16

3. _____ & _____ gate are universal building block.
   [a] NAND & NOR [b] AND & OR [c] EXOR & OR [d] AND & NAND

4. _____ register keeps tracks of the instructions stored in program stored in memory.
   [a] AR (Address Register) [b] XR (Index Register)
   [c] PC (Program Counter) [d] AC (Accumulator)

5. The addressing mode in the instruction of the form: ADD X Y, is _____.
   [a] Absolute [b] indirect [c] index [d] none of these

6. A Stack-organized Computer uses instruction of
   [a] Indirect addressing [b] Two-addressing [c] Zero addressing [d] Index addressing

7. Arithmetic operations with fixed point numbers take _____ for execution as compared to with floating point numbers.
   [a] shorter Time [b] longer time [c] no time [d] None of the above

8. Memory unit accessed by content is called _____.
   [a] Read only memory [b] Programmable Memory
   [c] Virtual Memory [d] Associative Memory

9. In a memory-mapped I/O system, which of the following will not be there?
   [a] LDA [b] IN [c] ADD [d] OUT

10. Cache memory acts between
    [a] CPU and RAM [b] RAM and ROM [c] CPU and Hard Disk [d] None of these

(22)

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11(a). Realize XOR gate using only 4 NAND gates.

[OR]

(b). Explain Multiplexer and draw its block diagram.

12(a). Explain various shift micro operations with examples and applications.

[OR]

(b). Explain various memory reference instructions with examples.

13(a). Write an assembly language program to find the largest among the N given numbers.

[OR]

(b). Write the steps in evaluate an arithmetic expression using stack. Give an example.

14(a). Discuss multiplication using Booth's algorithm with an example.

[OR]

(b). Explain in detail RISC pipeline. Why is the cache miss penalty, greater in deeply pipelined processor?

15(a). What is the need for I/O processor? How is it interfaced with the CPU? How does it communicate with each other?

[OR]

(b). Write down the need for memory hierarchy. Give the differences between main memory and cache memory.

Section – C **[3 X 10 = 30]**

[Answer Any THREE Questions]

16. Simplify the given Boolean function in POS form using K-map and draw the logic diagram using only NOR gates.

$F(A, B, C, D) = \Sigma m\,(0,1,4,7,8,10,12,15) + \Sigma d\,(2,6,11,14)$.

17. Discuss various logic micro operations with hardware implementations and list few applications of logic micro operations.

18. Discuss various addressing modes and data transfer instructions with examples.

19. Draw the block diagram of DMA controller and explain how data is transferred directly between memory and peripherals.

20. Explain pipeline in detail.

(23)

Reg. No:

G .T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)
(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - NOVEMBER 2017

Class : **I M.Sc., Computer Science**
Paper Code : **17PCSC11**
Title of the Paper : **Mathematical Foundation**

Date : **06.11.2017**
Time : **10.00 a.m to 01.00 p.m**
Max Marks : **75**

Section – A **[10 X 1 = 10]**

[Answer ALL the Questions]

1. If p denotes 'it is cold' and q denotes '7 + 3 = 100', then the symbolic form of "It is cold only if 7 +3 = 100" is _____.
   [a] $p \rightarrow q$ [b] $q \rightarrow p$ [c] $p \leftrightarrow q$ [d] $q \leftrightarrow p$

2. $P \rightarrow Q \Leftrightarrow$ _____.
   [a] $P \vee Q$ [b] $P \vee \neg Q$ [c] $\neg P \vee Q$ [d] $P \wedge Q$

3. In a graph G, a vertex is called a pendant vertex if it is of degree _____.
   [a] 0 [b] 1 [c] 2 [d] n

4. If there is a u-v path between every pair of vertices u and v in a graph G, then G is said to be _____.
   [a] connected [b] complete [c] disconnected [d] bipartite

5. In a finite Automaton $M = (Q, \Sigma, \delta, q_0, F)$, F represents _____.
   [a] finite states [b] final states [c] initial state [d] next state function

6. If each production $\alpha \rightarrow \beta$ in a grammar G satisfies $\alpha \in V_N$ and $|\alpha| \leq |\beta|$, then the grammar is called _____.
   [a] context free [b] context sensitive [c] regular [d] None of these.

7. A nonempty set S that satisfies _____ property under the binary operation * is called a semi group.
   [a] Commutative [b] Associative [c] Identity [d] Distributive

8. A group (G, *) is called abelian if _____ law holds.
   [a] Commutative [b] Associative [c] Identity [d] Distributive

9. A _____ lattice is called a Boolean algebra.
   [a] complemented [b] distributive [c] either [a] or ([b] [d] both [a] & [b]

10. In a lattice, which of the following is the statement of absorption law?
    [a] $a \wedge (a \vee b) = a$ [b] $a \wedge (a \vee b) = b$ [c] $a \vee (a \wedge b) = b$ [d] $a \vee (a \vee b) = a$

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11 a). Prove that (i) $\neg (P \leftrightarrow Q) \Leftrightarrow (P \wedge \neg Q) \vee (\neg P \wedge Q)$.

(ii) $\neg (P \leftrightarrow Q) \Leftrightarrow (P \vee Q) \wedge \neg (P \wedge Q)$

[OR]

24

b). Show that $P \to S$ can be derived from the premises $\neg P \vee Q, \neg Q \vee R, \ R \to S$

12 a). Let G be a bipartite graph. Then G is bipartite if and only if it contains no odd cycles - Prove this.

[OR]

b). Explain Disjkstra's shortest path algorithm with examples.

13 a). Construct a finite automaton that accepts exactly those input strings of 0's and 1's that end in 11.

[OR]

b). Find a grammar G such that $L(G) = \{a^n b^n : n \geq 1\}$

14 a). For any commutative monoid (M, *), prove that the set of all idempotent elements of M forms a sub monoid.

[OR]

b). State and prove Lagrange's theorem in groups.

15 a). Let $(L, \leq)$ be a lattice. For any $a, b \in L$, prove that the following are equivalent.

(i) $a \leq b$ (ii) $a \vee b = b$ (iii) $a \wedge b = a$

[OR]

b). Let L be a distributive lattice. If $a \wedge b = a \wedge c$ and $a \vee b = a \vee c$, then prove that $b = c$ for any $a, b, c \in L$.

Section – C

[3 X 10 = 30]

[Answer Any THREE Questions]

16. Find the principal disjunctive normal form and principal disjunctive normal form for the formula $(P \wedge Q) \vee (\neg P \wedge Q) \vee (Q \wedge R)$

17. Explain matrix representation of graphs with examples.

18. Construct a deterministic finite automaton (FA) equivalent to the NFA $M = (\{q_0, q_1, q_2, q_3\}.\{a, b\}, \delta, q_0, \{q_3\})$ where δ is given in the table.

δ	a	b
q_0	q_0, q_1	q_0
q_1	q_2	q_1
q_2	q_3	q_3
q_3	-	q_2

19. Let (G, *) be an abelian group. Prove that for all $a, b \in G$ $(a * b)^n = a^n * b^n$ for every integer n

20. In a Boolean algebra L, prove the De Morgan's law given by

(i) $(a \vee b)' = a' \wedge b'$

(ii) $(a \wedge b)' = a' \vee b'$

25

Reg. No: | | | | | | | | | |

G .T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)
(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - APRIL 2018

Class : **I M.Sc., Computer Science**
Paper Code : **17PCSC22**
Title of the Paper : **DATA COMMUNICATION AND NETWORKS**

Date : **30.04.2018**
Time : **10.00 a.m to 01.00 p.m**
Max Marks : **75**

Section – A **[10 X 1 = 10]**

[Answer ALL the Questions]

1. OSI Consists of _____ Layers.

   [a] Five [b] Six
   [c] Seven [d] Eight

2. HDLC is _____.

   [a] Bit Oriented [b] Code Transparent
   [c] Character Oriented [d] Both a & b

3. A device that links two homogenous packets broadcast local netw

   is _____.

   [a] Hub [b] Bridge
   [c] Repeaters [d] Gateway

4. Distributed Queue dual bus is standard for _____.

   [a] LAN [b] MAN
   [c] WAN [d] LAN & MAN

5. _____ Networks that are primarily used to transfer text files.

[a] Data [b] Telephone

[c] LAN [d] MAN

6. The _____ that connect the switch to a user devices

[a] NNI [b] UNI

[c] DNI [d] TNI

7. Packets in the IP Layers are called _____.

[a] Data Congestion [b] Data Flow

[c] Datagram [d] DataID

8. _____ is called as an end to end protocol.

[a] IP [b] SMTP

[c] TCP [d] FTP

9. A Computer that handles resources sharing and network management in a Local Area Network is called

[a] Network Server [b] VPN

[c] Network OS [d] OSI

10. HTTP protocol is transfer data in the form of _____.

[a] Cyber Text [b] Plain Text

[c] Hyper Text [d] Both a& b

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11. a) Write the Advantages and Disadvantages of the Star Topology.

[OR]

b) Explain the basic types of Communication Network

12. a) Discuss about LAN Operating Systems and Protocol.

[OR]

b) Write a short note on Circuit Switching.

13. a) Explain ISDN Topology.

[OR]

b) Explain IEEE 802.11 Protocol Layer

14. a) Discuss about IP next generation.

[OR]

b) Explain the functions of Transport Layer

15. a) Discuss about DNS.

[OR]

b) Discuss about SNMP Commands.

Section – C **[3 X 10 = 30]**

[Answer Any THREE Questions]

16. Explain the applications of Communication network..

17. Explain WAN Carrier Types.

18. Discuss about WAP Services

19. Discuss about User Datagram Protocol.

20. Explain WWW.

27

Reg. No: | | | | | | | | | |

G .T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)
(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - APRIL 2018

Class : **I M.Sc., Computer Science** Date : **02.05.2018**
Paper Code : **17PCSC23** Time : **10.00 a.m to 01.00 p.m**
Title of the Paper : **OPERATING SYSTEM** Max Marks : **75**

Section – A **[10 X 1 = 10]**

[Answer ALL the Questions]

1. The abstract view of an entity is a called _____ View.

   [a] Physical [b] Logical called new

   [c] Organization [d] Kernel.

2. Time sharing system was developed during ____.

   [a] 1975 [b] 1956

   [c] 1980 [d] 1970

3. A process is comprised of ____ component.

   [a] 5 [b] 7

   [c] 6 [d] 8

4. In Windows other threads have priorities in range____..

   [a] 1-15 [b] 0-15

   [c] 15-20 [d] 20-50

5. ____ is binding performed before the operation of a program begins

   [a] Static [b] Dynamic

   [c] Fixed [d] Late

6. ____ page replacement uses principal of locality of reference.
   [a] Optimal [b] FIFO
   [c] LRU [d] IPT

7. _____ is used to implement secrecy of the authentication database.
   [a] Encryption [b] Authentication
   [c] Authorization [d] Virus

8. MULTICS provides ____ protection domains that are organized as concentric rings?
   [a] 63 [b] 64
   [c] 70 [d] 73

9. _____ is a repository for interprocess message..
   [a] Lock [b] Receive
   [c] Send [d] Mailbox

10. Deadlocks can be detected by checking for the presence of cycle in ____.
   [a] init() [b] Del()
   [c] service() [d] Destroy()

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11. a) Enumerate in detail Batch Processing Systems.

[OR]

b) Summarize in brief Multiprogramming Systems.

12. a) Illustrate NonPreemptive Scheduling Policies.

[OR]

b) Enumerate about Preemptive Scheduling Policies.

13.a) Examine in detail Segmentation with Paging.

[OR]

b) Discuss in detail Memory-Mapped File with neat diagram.

14. a) Analyze Files and File Operations.

[OR]

b) Elucidate Disk Scheduling with neat diagram.

15. a) Illustrate in detail Deadlock Detection and Resolution...

[OR]

b) Characterize Deadlock Prevention with neat diagram..

Section – C **[3 X 10 = 30]**

[Answer Any THREE Questions]

16. Examine about Time Sharing Systems.

17. Discuss: i) Long, Medium and Short-Term Schedulers with neat diagram.
    ii) Priority-Based Scheduling with neat diagram.

18. Illustrate about Memory Allocation to a Process.

19. Characterize in detail Encryption Techniques.

20. Elucidate about Readers-Writers using Semaphores.

29

Reg. No: | | | | | | | | | |

G .T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)
(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - APRIL 2018

Class : **I M.Sc., Computer Science**
Paper Code : **17PCSE22**
Title of the Paper : **COMPUTER GRAPHICS AND MULTIMEDIA**

Date : **04.05.2018**
Time : **10.00 a.m to 01.00 p.m**
Max Marks : **75**

Section – A **[10 X 1 = 10]**

[Answer ALL the Questions]

1. _____ is a subfield of Artificial Intelligence.

   [a] Interactive graphics [b] DIP
   [c] GUI [d] Computer Vision

2. A device for specifying scalar values is _____.

   [a] Valuator [b] Data glove
   [c] Locator [d] Stroke

3. The line segment is visible if both end points are _____.

   [a] 0001 [b] 1000
   [c] 0000 [d] 0100

4. _____ means to change the size of object.

   [a] Scaling [b] Shearing
   [c] Translation [d] Rotation

5. The _____ lower right sub matrix produces overall scaling.

   [a] 3x1 [b] 2x3
   [c] 1x1 [d] 2x2

6. A frame buffer is used to store the _____ of each pixel in image space.

[a] Density [b] Intensity

[c] Coordinate [d] Scalar

7. The Aspect ratio of VGA is _____.

[a] 4:3 [b] 16:9

[c] 8:5 [d] 4:6

8. Recovery of original information in image reconstruction is _____.

[a] Convolution [b] Recovery

[c] Deconvolution [d] Kernel

9. Which of the following is not lossless image compression method is _____.

[a] RLE [b] Differential Coding

[c] LZ Coding [d] Hierarchical Coding

10. _____ motion descriptor characteristics 3D motion parameters.

[a] Motion Trajectory [b] Camera Motion

[c] Parametric Motion [d] Motion activity

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11. a) Discuss about the CRT.

[OR]

b) Explain the principles for good GUI design.

12. a) Explain point and line segment clipping.

[OR]

b) Discuss about Translation and Homogeneous coordinates.

13. a) Write a short note on 3D Reflection..

[OR]

b) Discuss about A – Buffer Algorithm.

14. a) Explain the different uses of Multimedia.

[OR]

b) Explain the different types of LCD Devices.

15. a) Explain the internal compounds of the Sound Card.

[OR]

b) Explain Video Signal Formats.

Section – C **[3 X 10 = 30]**

[Answer Any THREE Questions]

16. Explain the applications of Computer Graphics.

17. Discuss about Mid point subdivision Algorithm.

18. Explain Back – Face detection.

19. Explain characteristics of Multimedia Presentation

20. Discuss about MIDI.

Reg. No. 31

G .T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)
(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - APRIL 2018

Class : **I M.Sc., Computer Science** Date : **27.04.2018**
Paper Code : **17PCSC21** Time : **10.00 a.m to 01.00**
Title of the Paper : **ADVANCED JAVA PROGRAMMING** Max Marks :

Section – A

[10 X 1 =

[Answer ALL the Questions]

1. The NEW Operator

   [a] returns s pointer to a variable

   [b] creates a variable called new

   [c] obtains memory for a new variable

   [d] tells how much memory is available

2. In java array are

   [a] object

   [b] object reference

   [c] primitive data type

   [d] none of the above

3. ____ method cannot be overridden .

   [a] super

   [b] static

   [c] final

   [d] private

4. The program statement have to be monitored for exceptions are contained in which block

   [a] try

   [b] throw

   [c] catch

   [d] throws

5. The applet class is in ___package.

[a] java.applet [b] . java.awt

[c] java.io [d] java.util

6. Which package contains color class

[a] java.applet [b] java.awt

[c] java.graphics [d] java.lang

7. Which method can set or change the text in a label?

[a] setText() [b] getText()

[c] All of the above [d] putText()

8. How many types of controls does AWT support?

[a] 7 [b] 6

[c] 5 [d] 8

9. _____ is the first phase of the servlet life cycle.

[a] initialization [b] Service

[c] Start [d] Destruction

10. Which of the following is not the method of servlet?

[a] init() [b] Del()

[c] service() [d] Destroy()

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11. a) Enumerate in detail various Operators in Java with example.

[OR]

b) Summarize in brief nested—if—else Statement Syntax with example.

12. a) Illustrate concept of Classes and Objects Syntax with example.?

[OR]

b) Enumerate about method overriding with example program.

13.a) Examine in detail extends Thread with example.

[OR]

b) Discuss in detail Thread Priorities with example.

14. a) Analyze CheckBox with simple program

[OR]

b) Elucidate List Box with simple program

15. a) Illustrate in detail Developing a Simple Bean with example..

[OR]

b) Characterize various Interfaces used in Java Beans API.

Section – C **[3 X 10 = 30]**

[Answer Any THREE Questions]

16. Examine three types of iteration statements in java Syntax with example.

17. Discuss Hierarchical Inheritance with example.

18. Illustrate Thread Synchronization with example.

19. Analyze and prepare a Resume using AWT Components.

20. Elucidate to create a Simple Servlet with example

33

Reg. No:

G .T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University)

(Accredited by NAAC with 'B' Grade)

SUMMATIVE EXAMINATION - APRIL 2018

Class : **I M.Sc., Computer Science** Date : **27.04.2018**

Paper Code : **17PCSC21** Time : **10.00 a.m to 01.00 p.m**

Title of the Paper : **ADVANCED JAVA PROGRAMMING** Max Marks : **75**

Section – A **[10 X 1 = 10]**

[Answer ALL the Questions]

1. The NEW Operator

   [a] returns s pointer to a variable

   [b] creates a variable called new

   [c] obtains memory for a new variable

   [d] tells how much memory is available

2. In java array are

   [a] object [b] object reference

   [c] primitive data type [d] none of the above

3. ____ method cannot be overridden .

   [a] super [b] static

   [c] final [d] private

4. The program statement have to be monitored for exceptions are contained in which block

   [a] try [b] throw

   [c] catch [d] throws

5. The applet class is in ___package.
   [a] java.applet [b] . java.awt
   [c] java.io [d] java.util
6. Which package contains color class
   [a] java.applet [b] java.awt
   [c] java.graphics [d] java.lang
7. Which method can set or change the text in a label?
   [a] setText() [b] getText()
   [c] All of the above [d] putText()
8. How many types of controls does AWT support?
   [a] 7 [b] 6
   [c] 5 [d] 8
9. _____ is the first phase of the servlet life cycle.
   [a] initialization [b] Service
   [c] Start [d] Destruction
10. Which of the following is not the method of servlet?
    [a] init() [b] Del()
    [c] service() [d] Destroy()

Section – B **[5 X 7 = 35]**

[Answer ALL the Questions]

11. a) Enumerate in detail various Operators in Java with example.

[OR]

b) Summarize in brief nested—if—else Statement Syntax with example.

12. a) Illustrate concept of Classes and Objects Syntax with example.?

[OR]

b) Enumerate about method overriding with example program.

13. a) Examine in detail extends Thread with example.

[OR]

b) Discuss in detail Thread Priorities with example.

14. a) Analyze CheckBox with simple program

[OR]

b) Elucidate List Box with simple program

15. a) Illustrate in detail Developing a Simple Bean with example..

[OR]

b) Characterize various Interfaces used in Java Beans API.

Section – C **[3 X 10 = 30]**

[Answer Any THREE Questions]

16. Examine three types of iteration statements in java Syntax with example.
17. Discuss Hierarchical Inheritance with example.
18. Illustrate Thread Synchronization with example.
19. Analyze and prepare a Resume using AWT Components.
20. Elucidate to create a Simple Servlet with example