October 2018 2018/UGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018

I SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science

Mathematics for Computer Science - I EIAE3(6)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5X1=5 Marks)

1. For any equation with real co-efficients, irrational roots always occur as _____.
2. The vector $\begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix}$ satisfying the equation _____ is called as eigen vectors.
3. Write the nth derivative of e^{ax} is_____.
4. Write the formula for $e^{x}+e^{-x}$ is _____.
5. $\int secxdx\ is$ _____.

II. Choose the correct answer (5X1=5 Marks)

6. If Reciprocal equation is of even degree 6 in which the middle term is missing, then the two roots are

   a) -1 or $+1$ b) -1 and 1 c) 1 and 2 d) None of these

7. The Characteristic equation of the matrix $\begin{pmatrix} 1 & 2 \\ 2 & 1 \end{pmatrix}$ is

   a) $\lambda^2 - 2\lambda - 3 = 0$ b) $\lambda^2 + 2\lambda - 3 = 0$ c) $\lambda^2 + 2\lambda + 3 = 0$ d) None of these

8. The reciprocal property of Jacobian's $\frac{\partial(u,v)}{\partial(x,y)}.\frac{\partial(x,y)}{\partial(u,v)} =$

   a) 0 b) 1 c) -1 d) None of these

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9. The Binomial series $1+\frac{p}{1!}\left(\frac{x}{q}\right)+\frac{p(p+q)}{2!}\left(\frac{x}{q}\right)^2+\ldots\ldots=$

a) $(1-x)^{\frac{-p}{q}}$ b) $(1-x)^{\frac{p}{q}}$ c) $(1+x)^{\frac{-p}{q}}$ d) $(1+x)^{\frac{p}{q}}$

10. $\int \sin sin\,(ax+b)\,dx$ is

a) $-\frac{1}{a}\cos(ax+b)$ b) $-\frac{1}{a}\sin(ax+b)$ c) $\cos cos\,(ax+b)$ d) None of these

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Increase by 2 the roots $x^4-x^3-10x^2+4x+24=0$.

12. Find the Eigen vectors of the matrix $\begin{pmatrix}3 & 2\\ 1 & 4\end{pmatrix}$.

13. State Leibnitz theorem.

14. Find the Sum to infinity series $1+\frac{1}{1!}+\frac{1}{2!}+\frac{1}{3!}+\ldots.+\infty$

15. Write Bernoulli's formula for integration by parts.

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I B.Sc. Computer Science

Mathematics for Computer Science - I EIAE3(6)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.**

16. Solve $x^4 - 4x^2 + 8x + 35 = 0$ given that $2 + i\sqrt{3}$ is a root.

17. Verify Cayley-Hamilton theorem for the matrix $\begin{pmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{pmatrix}$.

18. If $y = e^{m\sin^{-1}x}$ Prove that $(1-x^2)y_{n+2} - (2n+1)xy_{n+1} - (m^2+n^2)y_n = 0$.

19. Sum to infinity of the series $1 - \frac{3}{4} + \frac{3.5}{4.8} + \frac{3.5.7}{4.8.12} + ... + \infty$.

20. Evaluate $\int x^4 \cos x dx$.

21. Diminish by one the roots of $x^4 - 4x^3 - 7x^2 + 22x + 24 = 0$ and then find the roots.

22. If $u = 2xy, v = x^2 - y^2, x = r\cos\phi, y = r\sin\phi$, then evaluate $\frac{\partial(u,v)}{\partial(r,\phi)}$.

23. Show that $\log\sqrt{12} = 1 + \left(\frac{1}{2} + \frac{1}{3}\right)\frac{1}{4} + \left(\frac{1}{4} + \frac{1}{5}\right)\frac{1}{4^2} + \left(\frac{1}{6} + \frac{1}{7}\right)\frac{1}{4^3} + ...$.

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I SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science

Mathematics for Computer Science - I EIAE3(6)

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.**

24. Solve $x^5 - 6x^4 + 7x^3 + 7x^2 - 6x + 1 = 0$.

25. Find the eigen values and eigen vectors of the matrix $\begin{pmatrix} 3 & -1 & 0 \\ -1 & 2 & -1 \\ 0 & -1 & 3 \end{pmatrix}$.

26. If $y = \left(x + \sqrt{1+x^2}\right)^m$ Show that $(1+x^2)y_{n+2} + (2n+1)xy_{n+1} + (n^2 - m^2)y_n = 0$.

27. Find the sum to infinity $\frac{15}{16} + \frac{15.21}{16.24} + \frac{15.21.27}{16.24.32} + ... + \infty$.

28. Evaluate (i) $\int \frac{\cos 2x}{\cos x} dx$. (6 Marks)

(ii) $\int x^4 \sin\frac{x}{2} dx$. (9 Marks)

**************ALL THE BEST*************

April 2019 2018/UGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018

II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science

Mathematics for Computer Science –II - EIIAE9(6)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5X1=5 Marks)

1. The Newton's forward interpolation formula is $f(a+nh) =$ _____.
2. If the roots of auxiliary equation are imaginary write the complementary function_____.
3. A linear partial differential equation of the first order known as Lagrange's linear equation is of the form_____.
4. If $\overline{F}$ is a vector then irrotational vector can be written as _____.
5. $L^{-1}\left[\frac{1}{s^2-9}\right]$ _____.

II. Choose the correct answer (5X1=5 Marks)

6. $E-1=$
   a) Δ b) ∇ c) E^{-1} d) None of these
7. If the roots of auxiliary equation are real and distinct then the complementary function is
   a) $Ae^{m_1 x}+Be^{m_2 x}$ b) $(Ax+B)e^{m x}$ c) $Ae^{\alpha x}+Be^{\beta x}$ d) None of these
8. Formation of differential equation by eliminating arbitrary constants of the function $f(x,y,z,a,b)=0$ is
   a) $\phi(x,y,z,a,b)=0$ b) $\phi(x,y,z,p,q)=0$ c) $f(x,y,z,p,q)=0$ d) None of these
9. If $grad(\phi+\psi) =$
   a) $curl\psi+curl\phi$ b) $grad\phi+grad\psi$ c) $grad\phi\psi$ d) None of these
10. $L^{-1}[F(s+a)] =$
    a) $e^{-at}L^{-1}(F(s))$ b) $e^{at}L^{-1}(F(s))$ c) $L(F(S))$ d) None of these

III. Answer the following (5X2=10 Marks)

11. Write the formula for Lagrange's interpolation.
12. Solve $(D^2+6D+9)y=0$.
13. Form the partial differential equation by eliminating the arbitrary constants from $z=(x^2+a)(y^2+b)$.
14. If $\bar{r}$ is a position vector of the point P(x,y,z). Prove that $div\bar{r}=3$.
15. Find $L[e^{-t}\cos t]$.

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science

Mathematics for Computer Science –II - EIIAE9(6)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.**

16. Find the value of y corresponding to $x = 2$ from the following table:

x	1	3	5	7
y	1	27	125	343

17. Solve $(D^2 + 4D + 4)y = e^{-2x} + \sin x$.

18. Obtain the partial differential equation by eliminating a, b, c from $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$.

19. Prove that $\nabla^2 r^n = n(n+1)r^{n-2}$ and hence deduce $\nabla^2(\frac{1}{r}) = 0$.

20. Find $L\left[\frac{e^{-at} + e^{-bt}}{t}\right]$.

21. Find $L^{-1}\left[\frac{s^2 + 7s + 2}{s(s+4)(s+2)}\right]$.

22. Solve $(D^2 - 1)y = x^3$.

23. Form the partial differential equation by eliminating the arbitrary functions from
$z = f(x + ct) + \phi(x - ct)$.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.**

24. The populations of a town in decennial census were as under. Estimate the population for the year 1965 and 1915.

Year	1911	1921	1931	1941	1951	1961	1971
Population (in thousands)	20	46	66	81	93	101	106

25. Solve $(D^2 - 4D + 1)y = x^2 + 2\cos 4x \cos 2x$.

26. Find the general solution of $(y + z)p + (z + x)q = x + y$.

27. Prove that $curlcurl\vec{F} = grad(div\vec{F}) - \nabla^2\vec{F}$ and hence deduce that $curlcurlcurlcurl\vec{F} = \nabla^4\vec{F}$ if $\vec{F}$ is solenoidal.

28. Solve $\frac{d^2y}{dt^2} + 6\frac{dy}{dt} + 8y = t^2 + 2t$, $y = -2$ and $y = 4$, when $t = 0$.

---------- ***All the Best*** ----------

October 2018 2017/2016 /UGR/UGA

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018
III SEMESTER **(Regular & Arrear)** – Applicable to candidates admitted in the year 2017 & 2016

II & III B.Sc. Computer Science
Statistical Methods and their Applications-I -EIIIAE14(5)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5 X 1 = 5 Marks)

1. _____ deals only with aggregate and not for individuals.
2. The Arithmetic mean of a set of *n* observations is given by _____.
3. The Coefficient of Quartile Deviation is _____.
4. The conditional probability of B given that A occurred is defined by _____.
5. If X is continuous random variable with p.d.f f(x) the E(y) is _____.

II. Choose the correct answer (5 X 1 = 5 Marks)

6. A_____ data collected either through a primary source or a secondary source has t be classified first.

a) Statistical b) Frequency c) Variation d) Sampling

7. Median is also called _____quartile.

a) fourth b) Second c) Third d) First

8. The coefficient of variation is _____

a) $\frac{\sigma}{n}$ x mean b) $\frac{\sigma}{mean}$ x 100 c) $\frac{\sigma}{100}$ x mean d) $\frac{S.D}{n}$ x mean

9. If A and B are mutually exclusive events then P(A ∪B) is

a) P(A)+P(B) b) P(A)P(B) c) P(AB) d) P(A)/P(B)

10. E(X+Y) = _____

a) E(X)+E(Y) b) E(X)E(Y) c) E(XY) d) E(X)/E(Y)

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III SEMESTER **(Regular & Arrear)** – Applicable to candidates admitted in the year 2017 & 2016

II & III B.Sc. Computer Science
Statistical Methods and their Applications-I -EIIIAE14(5)

III. Answer the following in One or Two Sentences **(5 X 2 = 10 Marks)**

11. Define four types of classification.
12. Find the mode of the following set of observations: 3,5,7,5,9,7,5,7,6,3,9,5,6,6,3.
13. Find the range for the set of observations 13,25,36,22,18,45,21,26,30,22.
14. Four coins are tossed. Find the probability of getting 2 heads and 2 tails.
15. State any two properties of distribution function.

Section – B **(5 x 7 = 35 Marks)**

Answer any five questions. ***All questions carry equal marks.***

16. Draw a pie- diagram of the following data relating to areas under different food-crops:

Food Crops	Rice	Wheat	Barley	Jowar	Bajra	Maize	others
Area in acres	8	8	4	2	2	5	11

17. Represent the following data by a simple bar diagram

Year	Production(in tones)	Year	Production(in tones)
1974	45	1978	49
1975	40	1979	42
1976	44	1980	55
1977	41	1981	50

18. The mean yearly salary of employees of a company was Rs.24,000. The mean yearly salary of male and female employees was Rs.25,000 and Rs.19,000 respectively. Find out the percentage of males and females employed by company.
19. Calculate A.M, G.M and H.M of the following quantities: 3, 6, 24, 28.

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II & III B.Sc. Computer Science
Statistical Methods and their Applications-I -EIIIAE14(5)

20. The first of two samples has 100 items with mean 15 and variance 9. If the whole group has 250 items with mean 15.6, variance 13.44, find the SD of the second sample.

21. A sample of 3 items is selected at random from a box containing 12 items of which 3 are defective. Find the possible number of defective combination of the said 3 selected items along with a probability of a defective combination.

22. Prove that E(aX+b) =a E(X)+b.

23. State and prove Boole's Equality.

Section – C
(3 x 15 = 45 Marks)

Answer any three questions. All questions carry equal marks.(Each answer should not exceed 600 words)

24. Draw a Lorenz curve from the following data to study the extent of dispersion graphically.

Amount of Profits (Rs:)	150	160	600	840	1050	1500	1700	4000
No. of Companies	28	20	34	30	28	26	22	12

25. Find the Mean, Median and Mode for the following data and verify the empirical relation.

Class	Frequency
1-10	3
11-20	7
21-30	13
31-40	17
41-50	12
51-60	10
61-70	8
71-80	8
81-90	6
91-100	6

26. Find the quartile deviation and the quartile coefficient of dispersion for the following data

Class	0-5	5-10	10-15	15-20	20-30	30-40	40-50	50-60	60-70

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Statistical Methods and their Applications-I -EIIIAE14(5)

Frequency	3	5	8	12	34	46	28	14	10

27. A man has three coins A, B, C. A is unbiased. The probability that a head will result when B is tossed is 2/3, the probability that a head will result when C is tossed is 1/3. If one of the coins chosen at random is tossed three times, giving a total of two heads and one tail, find (i) the probability that the chosen coin is A. (ii) the probability that a fourth toss of the same coin will give a head.
28. A continuous random variable x has the following pdf

$f(x) = 3x^2$ for $0 < x < 1$

$= 0$ otherwise.

Verify that it is a pdf and evaluate the following properties.

(i) $P(X \leq \frac{1}{3})$ (ii) $P(\frac{1}{3} \leq X \leq \frac{1}{2})$ (iii) $P(X \leq \frac{1}{2})$ / $P(\frac{1}{3} \leq X \leq \frac{1}{2})$

---------- ***All the Best*** ----------

April 2019 2017/2016/UGR/UGA

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018

IV SEMESTER **(Regular & Arrear)** – Applicable to candidates admitted in the year 2017 & 2016

II & III B.Sc. Computer Science

Statistical Methods and their Applications II– EIVAE19(5)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5 X1 = 5 Marks)**

1. The correlation of more than two variable is called _____ correlation.
2. The variance of the binomial distribution is _____.
3. A subset of population is called _____.
4. Random sampling is also referred to as _____ sampling.
5. In completely randomized design, the units are taken in a _____ group.

II. Choose the correct answer **(5 X1 = 5 Marks)**

6. When the two regression lines coincide, then r is

   a) 1 b) -1 c) 0 d) 0.5

7. The Poisson probability distribution is

   a) $\frac{e^{-\lambda}\lambda^x}{x!}$ b) $\frac{e^{x}\lambda}{x!}$ c) $\frac{e^{\lambda}\lambda^x}{x!}$ d) $\frac{e^{-x}\lambda}{x!}$

8. The calculated value of χ^2 is

   a) Always positive b) Always negative

   c) Zero d) Either positive (or) negative

9. Sampling error are present only in

   a) Census b) Sample survey

   c) Both sample and census surveys d) Complete numeration

10. Which one is the three way classification of analysis of variance

    a) Completely randomized design b) Random block design

    c) Latin square design d) χ^2 – test

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II & III B.Sc. Computer Science

Statistical Methods and their Applications II– EIVAE19(5)

III. Answer the following in One or Two Sentences **(5 X 2= 10 Marks)**

11. What is correlation?
12. Define normal distribution.
13. Give any two merits of t – test.
14. What is simple random sampling?
15. State the basic principles in the design of experiment.

Section – B

(5 X 7 = 35 Marks)

Answer any Five questions **All question carry equal marks.**

16. Find Karl Pearson′s coefficient of correlation from the following data.

wages	100	101	102	102	100	99	97	98	96	95
Cost of living	98	99	99	97	95	92	95	94	90	91

17. Ten coins are tossed simultaneously. Find the probability of getting
    (i). At least seven heads.
    (ii). Exactly seven heads.
    (iii). At the most seven heads.

18. In a sample of 500 people in Kerala 280 are tea drinkers and rest are coffee drinkers. Can we assume that both coffee and tea are equally popular in the state at 5% level of significance?

19. Explain simple random sampling.

20. The following figures relate to production in kgs of three variables A, B, C of wheat shown on 12 pots.

A	14	16	18		
B	14	13	15	22	
C	18	16	19	19	20

Is there any significant difference in the production of the varieties?

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II & III B.Sc. Computer Science

Statistical Methods and their Applications II– EIVAE19(5)

21. Fit a straight line trend equation by the method of least squares and estimate the trend values.

Year	1961	1962	1963	1964	1965	1966	1967	1968
Value	80	90	92	83	94	99	92	104

22. The marks obtained by a group of 9 regular course and another group of 11 part time course students in a test are given below.

Regular	56	62	63	54	60	51	67	69	58		
Part time	62	70	71	62	60	56	75	64	72	68	66

Examine whether the marks obtained by regular students and part – time students differ significantly at 5% level of significance at table value 2.101.

23. Explain systematic sampling.

Section – C

(3 X15=45 Marks)

Answer any three questions. **All question carry equal marks.**

24. Find the equation of regression lines for the following data.

x	25	28	35	32	36	36	29	38	34	32
y	43	46	49	41	36	32	31	30	33	39

25. The customer accounts of a certain department store have an average balance of Rs.120 and a standard deviation of Rs.40. Assuming that the account balances are normally distributed find

(i). What proportion of account is over Rs.150?

(ii). What proportion of account is between Rs.100 and Rs.150?

(iii). What proportion of account is between Rs.60 and Rs.90?

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II & III B.Sc. Computer Science

Statistical Methods and their Applications II– EIVAE19(5)

26. a) Two random samples drawn from normal population are

Sample I	20	16	26	27	23	22	18	24	25	19		
Sample II	27	33	42	35	32	34	38	28	41	43	30	37

Test whether the two population have the same variance.

b) A sample analysis of examination results of 500 students was made. It was found that 220 students have failed, 170 have secured a third class, 90 have secured a second class and the rest of the students have secured a first class. Do these figures support the general belief that the above categories are in the ratio 4:3:2:1 respectively.

27. Explain stratified random sample with example.

28. The yield of four strains of grallipoli wheat planted in five randomized blocks in kgs per plot is given below.

		Blocks				
		1	2	3	4	5
Strains	A	32	34	34	35	36
	B	33	33	36	37	34
	C	30	35	35	32	35
	D	29	22	30	28	28

Test for differences between blocks and differences between strains.

***** ***All the Best*** *******

October 2018 2018/PGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN*(Autonomous)*,
CHENNAI – 600 018

I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science **Theoretical Foundations – MGIC1(6)**

TIME: THREE HOURS **MAXIMUM MARKS:100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **(20 Marks)**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. Recurrence is a way of giving _____in terms of prior knowledge.
2. We use _____function for solving a recurrence relation.
3. An identity element for any binary operation,if exist is_____.
4. The process of joining two statements p and q using 'and' is _____.
5. A finite state is also called as_____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. $F_0 = 1, F_1 = 1, F_n = F_{n-1} + F_{n-2}$ is
   a) Fibanacci number b) Monoid c) Recurrence d) Combinations
7. The generating function of a sequence S_0, S_1, S_2,..is
   a) Power series b) Generating series c) Recurrence function d) None
8. For any commutative monoid (M, *), the se of idempotent elements of M forms
   a) Monoid b) Submonoid c) Semi monoid d) Semigroups
9. A statement which has truth value as 'false' is
   a) Tautologies b) Contradiction c) Conjunction d) Disjunction
10. A digraph that has no parallel edges is called a
    a) Simple digraph b) Multiple digraph c) Simple graph d) None

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Write $P(x) = x^3 – 6x^2 + 11x – 6$ in telescopic form.
12. How will you identify a discrete function?
13. When will you say a statement is 'If' Statement?
14. Define Semigroup.
15. Explain briefly on Finite Automaton.

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JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN*(Autonomous)*,
CHENNAI – 600 018

I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science Theoretical Foundations – MGIC1(6)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.**

16. Find the recurrence relation satisfying $y_n = A(3)^n + B(-4)^n$?

17. Calculate F_4 of the Fibonacci numbers using

    i) Recursion (3 Marks)

    ii) Iteration (4 Marks)

18. Draw the parsing tree for the formula

    $(((\neg P) \rightarrow (P \wedge Q)) \wedge (\neg(P \rightarrow Q)))$

19. If (M, *,e) be a monoid and a ∈ M. If a is invertible, then prove its inverse is unique.

20. Construct a finite automaton M accepting { ab,ba}.

21. Show that the set operations U,∩ (Union and intersection) are both commutative, associative, idempotent and each one is distributive over the other.

22. Construct truth table of the formula $(\neg P \vee Q) \wedge (\neg Q \vee P)$.

23. Construct an NFA accepting all strings over {0,1} which end in 1 but does not contain the substring 00.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions **All questions carry equal marks.**

24. Find the recurrence relation satisfying

    $Y_n = (A + B_n)4^n$

25. Solve $T(K) – 7T(K – 1) + 10T(K – 2) = 6 + 8K$ with T(0) = 1 and T(1) = 2.

26. Show that

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

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

27. Let T be the set of all even integers, show that the semi groups (Z,+) and (T,+) are isomorphic.

28. Let L be the set accepted by an NFA M. Then prove that there exit an FA M′ which accepted L.

---------- **All the Best**----------

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I SEMESTER **(Regular)** –Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science

Python Programming– MGIC2(6)

TIME: THREE HOURS **MAXIMUM MARKS:100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. _____ module in Python supports regular expressions.
2. _____ is a simple but incomplete version of a function.
3. To start Python from the command prompt, use the command _____.
4. The custom exceptions created by a new class is called _____.
5. _____function removes all leading whitespace in string.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. What will be the output of the following code :

   print type(type(int))

   a) type (int) b) type (type) c) error d) 0

7. What is called when a function is defined inside a class?

   a) Module b) Class c) Object d) Method

8. Which of these is not a core data type?

   a) List b) Class c) Dictionary d) Tuples

9. Which of the following function convert a string to a float in python?

   a) int (base x) b) char (x) c) float (x) d) str (x)

10. Which function overloads the >> operator?

    a) more b) gt c) ge d) None

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Define Variable.
12. Define Function.
13. What you mean by Tuple?
14. What is GUI?
15. How to open and read file?

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I SEMESTER **(Regular)** –Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science

Python Programming– MGIC2(6)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. List out the advantages and disadvantages of Python.
17. Explain Function call with example.
18. Give brief note on Built-in List methods.
19. Explain File operations.
20. Explain various techniques for designing classes.
21. Give note on I/O functions of python.
22. List the types of functions. Give syntax and example for each.
23. Write short notes on Dictionary comprehension.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Discuss various operators available in python with example.
25. Explain Decision making statements in detail with example.
26. How to change, reassigning and deleting tuples? Discuss with example.
27. Discuss about Exception handling.
28. Explain Graphical user interface with example.

----------**All the best**----------

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science

Object Oriented Analysis and Design– MGIC3(6)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions **(20 Marks)**

I. Fill in the blanks **(5X1=5Marks)**

1. A_____ in a class is called as instance of a class.
2. _____ state transition diagram is a network of state and event.
3. Use Case modeling is problem driven approach to object _____.
4. _____ is a graphical language with a set of rules and semantics.
5. OOSE means_____.

II. Choose the correct answer **(5X1=5Marks)**

6. The object-oriented development life cycle is which of the following:
   a) Analysis, design, and implementation steps in the given order and using multiple iterations.
   b) Analysis, design, and implementation steps in the given order and going through the steps not more than one time.
   c) Analysis, design, and implementation steps in any order and using multiple iterations.
   d) Analysis, design, and implementation steps in any order and going through the steps not more than one time.
7. _____ describes the sates of an object.
   a) Properties b) Procedures c) Methods d) Behavior
8. If you want to plan project activities such as developing new functionalities or test cases, which of the following OOAD artifacts is the most useful?
   a) Sequence diagrams b) Use cases
   c) Domain model d) Package diagrams
9. _____ deals with relationships between system components.
   a) Design Axiom 1 b) Design Axiom 2 c) Corollary d) None
10. UML depicts information systems as a collection of
    a) Objects b) Data c) Processes d) Information

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science

Object Oriented Analysis and Design– MGIC3(6)

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What do you mean by information hiding?
12. What is OMT?
13. What is continuous integration?
14. What is Use case?
15. Give the four UML diagram.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Discuss about class hierarchy. Give example.
17. Briefly discuss about Rumbaugh object model.
18. How the use case driven approach applied for object analysis?
19. State the steps to design classes.
20. Draw the structure of UML activity diagram.
21. Explain the Rapid Application development.
22. Discuss about the CRC Cards.
23. Explain the UML Meta model.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the Object Oriented System Development Life Cycle.
25. Describe the Patterns and Frameworks.
26. Explain the steps to Identify Object Relationship, Attributes and methods.
27. Explain about the Object Oriented design process.
28. Discuss the UML Dynamic Modeling.

---------- **All the best** ----------

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science Mobile Computing – MGICE1(6)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **(20 Marks)**

I. Fill in the blanks **(5X1=5 Marks)**

1. PDA stands for _____.
2. In GSM, a useful service for very simple message transfer is the _____.
3. The WLAN behaves like a slow wired _____.
4. A TCP connection is identified by the tuple also known as _____.
5. RTT stands for _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. Several directed antennas can be combined on a single pole to construct a
   a) Sectorized antenna b) Smart antenna
   c) Multi – element antenna d) None of the above
7. RNS stands for
   a) Radio Network System b) Radio Network Sub system
   c) Radio Network services d) None of the above
8. PLW can range between
   a) 0 & 4056 b) 0 & 4076 c) 0 & 4095 d) None of the above
9. DHCP stands for
   a) Dynamic Host constant protocol b) Dynamic Host consequene protocol
   c) Dynamic Host content protocol d) Dynamic Host Configuration Protocol
10. The behavior TCP shows after the detection of congestion is called
    a) Slow start b) Fast retransmit
    c) Fast recovery d) None of the above

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Define Multiplexing.
12. Brief note on GEO.
13. What is Passive scanning?
14. Mention the use of routing.
15. What do you mean fast retransmit?

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018
I M.Sc. Computer Science **Mobile Computing – MGICE1(6)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Write notes on wireless devices.
17. Examine the main concepts of GPRS.
18. Name and describe various functions covered by Link Manager Protocol.
19. Give a brief note on IPv6.
20. Analyze the advantages and disadvantages of Snooping TCP.
21. Write notes on FDMA.
22. Explain about Digital Video Broadcasting.
23. Describe the advantages of WLANs.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Elaborate in detail on Antennas.
25. Explain the functions of GSM with its Architecture.
26. Discuss the system and protocol architecture of IEEE 802.11.
27. Describe about DHCP.
28. Highlight the various mechanisms of TCP.

---------- **ALL THE BEST** ----------

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science **Compiler Design – MGIIC4(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. There are _____ tuples in finite state machine.
2. _____ grammar generates more than one parse tree for some sentence of language.
3. _____specifies the translation of a construct in terms of attributes associated with its syntactic components.
4. Undeclared variable errors are detected during _____ phase.
5. Register allocation is only within a basic block, it follows _____approach.

II. Choose the correct answer **(5X1=5 Marks)**

6. Language of Finite automata is

   a) Type 0 b) Type 1 c) Type 2 d) Type 3

7. Which of the following statement is correct?

   a) All regular grammar are context free but not vice versa

   b) All context free grammar are regular but not vice versa

   c) Regular grammar and context free are same entity d) None

8. An _____ may represent specific translation of a construct in terms of attributes associated with its syntactic components.

   a) Top down b) Bottom up c) Attributes d) Tuples

9. A basic block can be analysed by a

   a) DAG b) Graph which may involve cycles c) Flow graph d) None

10. Which of the following optimization techniques are typically applied on loops?

    a) Removal of invariant Computation b) Elimination of induction variables

    c) Peephole optimization d) Invariant computation

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science **Compiler Design – MGIIC4(6)**

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What is a Complier?
12. Define Parser.
13. What is Symbol table?
14. What are the Error recovery actions in a lexical analyser?
15. Define flow graph.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain about the complier construction tools.
17. Compare top down parsing and bottom up parsing.
18. Write the grammar for flow of control statements.
19. Narrate about sources of optimization.
20. What are the issues in the Code generator? Discuss.
21. How to convert a regular expression into DFA?
22. Explain about the capabilities of CFG.
23. How to represent scope information in symbol table? Give example.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Discuss in detail about role of Lexical analyser.
25. Compare SLR and LALR parser.
26. What is a three address code? Mention its types. How would you implement these address statements? Explain with suitable examples.
27. Explain DAG representation of basic blocks.
28. Describe the significances of peephole optimization.

---------- All the Best ----------

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science **.Net Technologies – MGIIC5(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5X1=5 Marks)

1. C# checks overflows using _____ keyword.
2. _____object creates a connections between your ASP scripts and a data source.
3. To access an array, we specify the index number in ASP.NET using _____ brackets.
4. ADO stands for _____.
5. _____ is the standard way for developing markup language that can describe any kind of data or functionality.

II. Choose the correct answer (5X1=5 Marks)

6. The only component oriented language available is?

   a) C++ b) Java c) VB.Net d) C#

7. _____object is used to access properties and methods on the server.

   a) The server object b) Application and session objects

   c) The request and response object d) The command object

8. Which server-side technique is available in ASP.NET?

   a) Application states b) Session states

   c) Database support d) Both a and b

9. Which layer is exemplified by the use of ADO.NET?

   a) Application b) Association

   c) Data d) Logical

10. What is XML?

    a) XML is web services and a specification for creating markup languages

    b) XML is not extensible markup language

    c) XML Is transporting language

    d) XML is a database

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science **.Net Technologies – MGIIC5(6)**

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What are Data types?
12. List out the Web Control Events.
13. What is Validation?
14. Define data binding.
15. What is file system?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Write notes on Class in C#.
17. What are the Application Events? Explain.
18. Write short notes on Cookies.
19. Discuss direct data access and disconnected data access.
20. Elaborate on XML Validation with suitable example.
21. What is Rich controls? Explain.
22. Discuss the SQL basics.
23. What are the visual studio debugging?

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. What are the different types of Inheritance? Discuss with example.
25. Describe the significances of Error handling logging and tracing.
26. Discuss in detail the session state configuration and application state.
27. Explain the Data Binding in detail.
28. Discuss the features of the following:
    a) XML Display and Transforms
    b) ASP.NET AJAX.

---------- All the Best ----------

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science

Design and Analysis of Algorithms– MGIIC6(6)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. An _____ is a finite set of instructions that accomplishes a particular task.
2. TVSP stands for _____.
3. _____ is an algorithmic design method that can be used when the solution to a problem can be viewed as the result of sequence of decisions.
4. A _____ is a round – trip path along n edges of G that visits every vertex once and returns to its starting position.
5. A machine capable of executing a non-deterministic algorithm in this way is called a _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. Each instruction is clear and unambiguous is called
   a) Definiteness b) Finiteness
   c) Effectiveness d) None of the above
7. The greedy method suggests that one can devise an algorithm that works in
   a) Levels b) Stages c) Units d) None of the above
8. When the search necessarily involves the examination of every vertex in the object being searched is called
   a) Delete b) Update c) Traversal d) None of the above
9. The total number of nodes in the 8 – queen state space tree is
   a) 69821 b) 69218 c) 689211 d) 69281
10. Which problem belongs to both NP hard Complexity and NP classes?
    a) NP b) NP hardness
    c) NP Completeness d) None of the above

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science

Design and Analysis of Algorithms– MGIIC6(6)

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Name any two example for Divide – and – conquer.
12. Define Weighted trees.
13. State the principle of optimality.
14. What is Chromatic number?
15. Mention the use of Optimization problem.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Write the algorithm to find maximum and minimum value in an array.
17. Explain Strassen's matrix multiplication. Give the formula for overall computing time.
18. Write short notes on BFS.
19. Explain about 8 – queens problem.
20. Prove that CNF satisfiability ∞ directed Hamiltonian cycle.
21. List and explain various Asymptotic notations.
22. Write about knapsack problem. Give example.
23. Give a brief account on Spanning trees.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain merge sort with suitable example.
25. Discuss kruskals alogorithm for minimum cost spanning trees with example.
26. Explain the following: i) Multistage graphs ii) Single source shortest path.
27. Discuss about Travelling salesperson problem.
28. State and explain about Cook's theorem in detail.

---------- All the Best ----------

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JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*, CHENNAI – 600 018

II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science

Artificial Intelligence and Expert Systems– MGIICE2(6)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. An_____ is anything that can be viewed as perceiving its environment through sensors and acting upon that environment through actuators.
2. The _____ algorithm is simply a loop that continually moves in the direction of increasing value –that is uphill.
3. We will consider games with two players, whom we will call_____ and _____.
4. _____ and _____ are the components of Knowledge Base
5. It is a strategy of an expert system to answer the question "What can happen Next".

II. Choose the correct answer **(5X1=5 Marks)**

6. What is Artificial Intelligence?

a) Putting your intelligence into computer b) Programming with own intelligence

c) Making a machine intelligence d) playing a game

7. Type of Knowledge in AI

a) Declarative Knowledge b) Procedural knowledge

c) Meta-Knowledge d) All the above

8. Zero Game has _____players.

a) Seven b) Two c) Three d) Multiplayer

9. Capabilities of Expert System:

a) Advising b) Diagnosing c) Explaining d) All the above

10. Which of the following is a subfield of Natural Language Processing?

a) Algorithm and Heuristic b) Understanding and Generation

c) Symbolic and Numeric d) Time and Motion

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.Sc. Computer Science

Artificial Intelligence and Expert Systems– MGIICE2(6)

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What is Artificial Intelligence?
12. What is Knowledge Representation?
13. Define Bayes Theorem.
14. List any two characteristics of Expert System.
15. What is NLP in AI?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Write Short Notes on: Hill Climbing Techniques.
17. List out the issues in Knowledge Representation.
18. Explain alpha beta pruning in artificial intelligence.
19. Describe Frames.
20. Explain the components of Natural Language processing.
21. What is predicate logic? With examples discuss how facts can be represented in logic.
22. Write about Knowledge acquisition techniques.
23. What are the techniques in artificial intelligence? Discuss any one.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Write down the AO* algorithm and describe the problem production functions.
25. Explain the Predicate Calculus Answer Extraction.
26. What is fuzzy reasoning? Discuss.
27. Discuss the factors to be considered while building an expert system.
28. What is learning? Discuss any two learning techniques.

---------- All the Best ----------

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CHENNAI – 600 018

III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science

Cryptography – MGIIIC7(5)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. In Cryptography, algorithm for performing encryption and decryption is_____.
2. In any group G, powers b^k can be defined for all integers k, and the _____ log_b^a is an integer k such that $b^{k=a}$.
3. Man-in-the-middle attack can endanger security of Diffie-Hellman method if two parties are not_____.
4. To check integrity of a message, or document, receiver creates the _____.
5. Digital signature is also known as _____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. A substitution cipher substitutes one symbol with
   a) Keys b) Others c) Multi Parties d) Single Party
7. Euler's totien function can be written as
   a) φ(n) b) α(n) c) β (n) d) None of the above
8. A Public-key cipher uses
   a) 1 key b) 2 key c) 3 key d) 4 key
9. Hash function is used to produce
   a) Finger print of a file b) Useful for message authentication
   c) Both a and b d) None of the above
10. A digital signature need a :
   a) Public key system b) Private key system
   c) Public and Private key system d) None of the above

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Define Encryption.
12. Define Modular arithmetic.
13. What is public key?
14. What is Message authentication?
15. Expand DES.

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science

Cryptography – MGIIIC7(5)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain Playfair cipher.
17. Write about Fermat's theorem.
18. Write about Key management.
19. Distinguish between message integrity and message authentication.
20. What are the properties does a digital signature should have?
21. Briefly explain Data Encryption standard.
22. Explain the Principles of Public key.
23. What are the requirements of Hash functions?

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the significances of DES with example.
25. Write Euclidean algorithm with suitable example.
26. Explain how Diffie Hellman key exchange works.
27. Explain the Compression of Secure Hash Algorithm.
28. Describe the Digital Signature Algorithm.

----------All the best----------

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science

Artificial Neural Networks – MGIIIC8(5)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **(20 Marks)**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. Human beings are more intelligent than _____.
2. The basic function of a biological neuron is to add its inputs and to produce an output if the sum is greater than some value known as _____.
3. LVQ stands for _____.
4. Reducing the temperature while the network is running is called _____.
5. CAM stands for _____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. It is the basic unit of the brain.
   a) Neuron b) Cell c) Soma d) None of the above
7. The input patterns are assumed to come from a space which has two classes are
   a) E+ & E- b) F+ & F- c) G+ & G- d) None of the above
8. Auxiliary maps are also called as
   a) Accuracy map b) Constant map c) Transient map d) None of the above
9. TSP stands for
   a) Total solution problem b) Total service problem
   c) Total stack problem d) Travelling Salesman Problem
10. A simple form of content addressable memory can be implemented in standard computer memory using a technique known as
    a) Hash coding b) Encryption c) Decryption d) None

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. What is pattern recognition?
12. Draw the function table of XOR gate.
13. What is vector quantization?

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science

Artificial Neural Networks – MGIIIC8(5)

14. Summarize the operations of Hopfield network.
15. Expand the term ADAM.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain the organization of the brain.
17. Write down the perception learning algorithm.
18. Give a brief account on learning vector quantization.
19. Explain ART architecture with neat diagram.
20. Write about Wilshaw's associative net.
21. Write notes on linear classifier.
22. Explain about Radial basis function.
23. Discuss about RAM and its implementation.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the structure of the Brain.
25. Discuss the limitations of Perceptrons.
26. Explain about the Kohonen algorithm.
27. Write in detail about Boltzmann machine.
28. Writes notes on Standard computer memory.

----------All the best----------

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science

Open Source Technologies – MGIIIC9(5)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. The client can send form data to the server using _____.
2. Linux was developed by _____.
3. The _____ command is used to check whether apache is running or not.
4. Each record contains some information is called _____.
5. The function _____ returns the value of its arguments in reverse order.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. Which one of the following is not the open source software?

   a) Latex b) Perl c) Visual C++ d) PHP

7. The permission of the file in Unix can be changed using _____ command.

   a) Chmod b) Chdir c) Chper d) Chown

8. The _____ command is used to stop the apache web server.

   a) /etc/init.d/httpd start b) /etc/init.d/httpd stop

   c) /etc/init.d/http start d) /etc/init.d/http stop

9. The _____ symbol shows the values for all fields in the table.

   a) # b) $ c) & d) *

10. PHP stands for

    a) HTML Preprocessor b) HyperText Preprocessor

    c) HTML Processing d) HyperText Processing

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. What do you mean by open source software?
12. Define Shell script.
13. Expand NCSA.
14. Write the syntax to connect data in the database.

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017
II M.Sc. Computer Science
Open Source Technologies – MGIIIC9(5)

15. Define PHP.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. How will the server serve the dynamic data in a website? Discuss with example.
17. Explain the list of process oriented commands in Linux.
18. Discuss in detail about the various File access Permission available in Linux.
19. Explain in detail about the iterative statements available in Shell with an example.
20. Discuss how the Apache web server response to the user request with a neat diagram.
21. i) Write a MYSQL statement to create a employee database and insert the records. (4 narks)

    ii) Write an Update query to update the employees salary with 10% whose designation is 'Manager'.
22. Write a PHP program to find sum of digits.
23. Explain about the functions available for arrays in PHP.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Discuss in detail about the how the server serves when the user request a website with a neat diagram.
25. Explain in detail about the attributes involved in ls command with an example.
26. Explain how you will secure Apache Web server.
27. Discuss in detail about how you will create, insert and retrieve the records in MySQL with an example.
28. Discuss about the looping constructs in PHP with an example.

----------All the best----------

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

All P.G's Except II M.Sc. Computer Science

Interdisciplinary – Adobe Photoshop - MGIIID(5)

Time: Two Hours **Maximum Marks:40**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A **(3 x 2= 6 Marks)**

Answer any three questions. **All questions carry equal Marks.(Each answer should not exceed 50 words)**

1. What are the differences between bitmap and vector images?
2. How will you save files in TIFF format?
3. What is the use of a pencil tool in adobe Photoshop?
4. Write the function of lasso tool.
5. What are the two ways to adjust color?

Section – B **(2 x 5 = 10 Marks)**

Answer any two questions **All questions carry equal Marks.(Each answer should not exceed 250 words)**

6. Explain the tools panel in adobe Photoshop.
7. How will you resize images in adobe Photoshop?
8. Discuss about the editing tools in Photoshop.
9. Explain the operation of marquee selection tools.
10. How will you apply the unsharp mask filter?

Section – C **(3 x 8 = 24 Marks)**

Answer any three questions **All questions carry equal Marks.(Each answer should not exceed 400 words)**

11. Discuss in detail about rulers, grids and guides in Photoshop.
12. Explain the Procedures for opening and saving Image files in Photoshop.
13. Discuss about healing brush tools.
14. Describe the significances of feathering selections in detail.
15. Discuss about the smart filters and filter gallery.

---------**All the Best**---------

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

All P.G's Except II M.Sc. Computer Science

Soft Skills III – Macromedia Flash – MGIIIK3(5)

Time: Two Hours **Maximum Marks:40**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A **(3 x 2= 6 Marks)**

Answer any three questions. **All questions carry equal Marks.(Each answer should not exceed 50 words)**

1. Define the functions of Layers.
2. List any five tools available in Tools Panel.
3. Write a note on Graphic Symbols.
4. List various Sound File Formats.
5. Bring out various video formats.

Section – B **(2 x 5 = 10 Marks)**

Answer any two questions **All questions carry equal Marks.(Each answer should not exceed 250 words)**

6. Explain about Rotation of an Object.
7. Write short notes on Timeline Panel.
8. How do you modify symbols by Editing? Give example.
9. Explain about synchronizing a sound file with an animation.
10. Write short notes on adding video to your movies.

Section – C **(3 x 8 = 24 Marks)**

Answer any three questions. **All questions carry equal Marks.(Each answer should not exceed 400 words)**

11. Explain about the different types of Tweens in detail.
12. Discuss about working on Frames.
13. Explain about Adding Sound to buttons in detail.
14. Describe the steps to add sound to Movies.
15. Explain about Exporting videos.

---------**All the Best**---------

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All P.G's Except II M.Sc. Computer Science

Soft Skills III – Macromedia Flash – MGIIIK3(5)

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science

Data Mining and Warehousing - MGIVC10(5)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5X1=5 Marks)

1. _____ is the process of discovering an interesting knowledge from large amount of data.
2. Redundancy can be detected by _____ analysis.
3. _____ classifiers are statistical classifiers.
4. _____ approach is called bottom up approach in hierarchical methods.
5. A multidimensional data model can view the data in the form of a _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. _____ defines maximize the intraclass similarity and minimize the interclass similarity
   a) Classification b) Clustering c) Prediction d) Association
7. _____ reduction is used to remove irrelevant, weakly relevant or redundant attributes.
   a) Dimension b) Data compression c) Aggregation d) Discretization
8. The class label of each training sample is not known is called
   a) Unsupervised learning b) Clustering c) Supervised learning d) Both a and b
9. _____ is a clustering algorithm that explores dynamic modeling in hierarchical clustering.
   a) CURE b) BIRCH c) Chameleon d) k-Medoids
10. OLAP means
    a) Online Analytical Processing b) Online analysis processing
    c) Online analysis processor d) Online analytical processor

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What do you mean by Temporal database?
12. List the techniques involved in Data transformation.
13. Mention the criteria used to evaluate classification and prediction.
14. What is called Dissimilarity matrix?
15. List the four different views in the design of a datawarehouse.

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science

Data Mining and Warehousing - MGIVC10(5)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Describe the architecture of a data mining system with a neat diagram.
17. Explain the different classification of data mining systems.
18. Mention the different ways to fill the missing values in Data cleaning
19. Explain the Apriori algorithm to find the frequent itemset in transaction.
20. Discuss about Tree pruning methods in Decision tree.
21. Describe the various variables used to find the dissimilarity between objects.
22. Explain about BIRCH hierarchical clustering method.
23. Describe the different schemas for multidimensional databases.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain in detail about the steps involved in knowledge discovery in databases with a neat diagram.
25. Discuss in detail about the various strategies involved in Data reduction.
26. Describe Naïve Bayes Classification algorithm.
27. Discuss in detail about the partitioning based clustering methods.
28. Explain in detail about the architecture of data warehouse with a neat diagram.

---------- All the Best ----------

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science **Cloud Computing – MGIVC11(5)**

II M.C.A. **Cloud Computing – MHIVCE1(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. IaaS stands for _____.
2. _____ is the transformation of a string of characters into a usually shorter fixed-length value or key that represents the original string.
3. The _____is primarily related to the dynamic provisioning of virtual servers, using a system that allocates and reclaims CPUs and RAM.
4. _____ is switching to a redundant or standby computer server, system, hardware component or network upon the failure or abnormal termination of the previously active application.
5. SLA stands for _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. _____ is a program, or a suite of applications, available within the Cloud, rather than a computer's hard drive.

   a) Saas b) Iaas c) Paas d) None

7. A _____ is a mathematical scheme for demonstrating the authenticity of digital messages or documents.

   a) Digital signature b) Hashing c) Sorting d) Merging

8. _____ is one of the cloud computing architecture.

   a) Resource pooling architecture b) Network pooling architecture

   c) Packet pooling architecture d) Database pooling architecture

9. _____technology enabled multiple logical servers to operate on a single physical computer.

   a) Virtualization b) Client-Server c) Distributed computing d) Datawarehouse

10. Cloud computing systems uses the _____ (GQM) method.

    a) goal question metric b) goal quality metric

    c) gain quality metric d) loss quality metric

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science **Cloud Computing – MGIVC11(5)**

II M.C.A. **Cloud Computing – MHIVCE1(5)**

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Explain the goal of Cloud computing.
12. Define SSO.
13. Define pooling.
14. What do you mean by multi device broker?
15. What are SLA guidelines?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain about Cloud Deployment models.
17. What do you mean by virtualization technology?
18. Write notes on cloud bursting architecture.
19. What do you mean by cloud Infrastructure?
20. Explain about cloud usage and cloud metrics mechanism.
21. What are consumer perspectives of cloud?
22. What are threat agents? Give example.
23. Write short notes on hardened virtual server images.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Discuss about cloud delivery models.
25. Explain in detail about cloud security mechanism.
26. Describe about any two advanced cloud architectures.
27. Write notes on
    a. SLA management system
    b. Hypervisor
    c. Cloud storage device.
28. How do you perform cloud provisioning contract? Explain with its structure.

***************ALL THE BEST*************

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science Digital Image Processing - MGIVCE2(5)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. Digitizing the coordinate value is called _____.
2. CRT stands for _____.
3. The Butterworth filter has a parameter called the _____.
4. When the Fourier spectrum of noise is constant, the noise is usually called _____.
5. TIFF stands for _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. Digitizing the amplitude values is called

a) Sampling b) Quantization

c) Compression d) None of the above

7. The method used to generate a processed image that has a specified histogram is called

a) Histogram matching b) Histogram implementation

c) Histogram identification d) None of the above

8. For lower – order values, the butter worth filter has a smooth form which is similar to the

a) Domain filter b) Spatial filter

c) Guassian filter d) None of the above

9. The best – known order – statistics filter is the

a) Harmonic mean filter b) Geometric mean filter

c) Arithmetic mean filter d) Median filter

10. The Encoder is made up of a

a) Source encoder b) Source decoder

c) Noise encoder d) None of the above

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science **Digital Image Processing - MGIVCE2(5)**

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Define Gray – level resolution.
12. What is Frequency domain?
13. Define Cutoff frequency.
14. What is Region growing?
15. Name the three coding system defined by JPEG standard.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Write short notes on RGB colour model.
17. Explain about order – statistics filter.
18. Discuss Butter worth low pass filter.
19. Enumerate various Mean filter.
20. Write notes on LZW coding.
21. How to represent digital image? Explain.
22. Explain contrast switching and Gray – level slicing.
23. Explain the role of Illumination.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Discuss the fundamentals of Digital Image Processing.
25. Explain the basics of Spatial filtering.
26. Explain one – dimensional Fourier transform & its inverse.
27. Describe various Noise probability density functions.
28. Explain the fundamentals of Image compression.

---------- All the Best ----------

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.Sc. Computer Science

Soft skills IV – Effective Methods for Software Testing – MGIVK4(5)

Time: Two Hours **Maximum Marks:40**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A **(3 x 2= 6 Marks)**

Answer any three questions. **All questions carry equal Marks.(Each answer should not exceed 50 words)**

1. What are the two components of the testing strategy?
2. List the four steps involved in selecting the appropriate testing tool?
3. What is the purpose of Acceptance testing?
4. What is Unit testing?
5. Define WinRunner.

Section – B **(2 x 5 = 10 Marks)**

Answer any two questions **All questions carry equal Marks.(Each answer should not exceed 250 words)**

6. Describe the role of software testers.
7. Bring out the steps to select and use Test Tools.
8. Write short notes on Life-Cycle testing concepts for software development process.
9. Explain the need for automated testing tools.
10. Explain the architecture of SilkTest.

Section – C **(3 x 8 = 24 Marks)**

Answer any three questions **All questions carry equal Marks.(Each answer should not exceed 400 words)**

11. How do you build structural approach for software testing? Discuss with example.
12. Describe the functions of various common testing tools.
13. Explain the V-diagram of the Eleven-step software testing process.
14. Discuss various types of testing in detail.
15. Explain how Vuser script is created using Virtual user generator.

********ALL THE BEST*******

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Discrete Mathematics – MHIC1(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **(20 Marks)**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. A Statement which do not contain any connectives are called _____.
2. The disjunction in which each variables or its negation occur only once are called as_____.
3. The product of non zero rational and irrational number is _____.
4. Every chain is a _____.
5. The empty sequence of sequence of letter is called the _____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. Which of the following statement is equalant to P∨ד P?

   a) P∨P b) P∨Q c) Q∨ד Q d) Q∨Q

7. The dual of the symbol ∧ is

   a) ↑ b) ↓ c) → d) ∨

8. The property $(a')' = a$ is called

   a) Involution b) Idempotent c) Absorption d) Complement

9. Some statements asserts that a property is true for all values of a variable in a particular domain is known as

   a) Universe of discourse b) Quantifier c) Lattice d) Logic

10. The language is regular if there is some DFA M such that

    a) L = L(M) b) q is finite c) δ is zero d) δ is subset of Q

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018
I M.C.A. **Discrete Mathematics – MHIC1(6)**

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Define negation with example.
12. Show that (p ∨q) is logically equivalent to p.
13. Write the following statement in the symbolic form "All Cats are animals".
14. What is the necessary and sufficient condition for an elementary product to be identically false?
15. Obtain disjunctive normal form of P ∧ (P→Q).

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.**

16. Find the truth table for the following statements:

    (i (P→Q) ∧ (Q→P)

    (ii (P∨Q) ∨ (ד P)

17. Prove that (P ∧ Q) ∨ (ד P ∧ Q) ∨ (P ∧ ד Q) ∨ (ד P ∧ ד Q) is tautology.
18. Prove that ((p∧q) ∧ (p→r) ∧ (q→r))→r is a tautology by truth table.
19. Obtain PCNF and PDNF of the formula (ד p∨ד q)→(p⇄ ד q).
20. Show that (x)(P(x) ∨Q(X))⇒(X)P(X)∨ (∃X) Q(X).
21. Let (L,≤) be a lattice. Show that if a ≤b, then (i) (a∨c)≤(b∨c) (ii) (a∧c) ≤ (b∧c).
22. Prove that any distributive lattice is modular.
23. Construct a state diagram representing the NFA given below.

    M = ($\{q_o,q_1,q_2,q_3\}$,(0 , 1} , δ , q_o , $\{q_3\}$) where δ is defined by

δ	0	1
q_o	q_o, q_2	q_o , q_1
q_1	-	q_3
q_2	q_3	-
q_3	q_3	q_3

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Discrete Mathematics – MHIC1(6)**

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.**

24. Explain Conjunction and disjunction statements with example and prove that

    (i) $(p \wedge q) \vee r \leftrightarrow (p \vee r) \wedge (q \vee r)$

    (ii) $p \wedge (p \vee q) \leftrightarrow p$

25. Explain Quine – Mccluskey algorithm with example.

26. Obtain the PCNF of the formula S given by $(\neg P \rightarrow r) \wedge (q \rightleftarrows p)$ and hence deduce the PDNF of S.

27. Define modular lattice with an example and hence prove that the set of all normal subgroups of a group is a modular lattice.

28. State and prove Robin Scott theorem.

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I SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2018

I M.C.A. **Digital Logic Fundamentals – MHIC2(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. Expand ASCII _____.
2. The map method was first introduced by _____.
3. A multiplexer is also called a _____.
4. A register capable of shifting its binary information either to the right or to the left is called _____.
5. A microprocessor combined with memory and interface modules is called a _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. The unweighted code is

   a) Excess -3 code b) Gray Code c) BCD d) Binary

7. The non-degenerate form is

   a) AND-OR b) NAND - AND c) OR-AND d) All of the above

8. A decoder with an enable input can function as a

   a) Encoder b) Decoder c) DeMultiplexer d) Multiplexer

9. The _____ flip flop is the modification of the clocked RS flipflop.

   a) D b) T c) JK d) RS

10. In this mode, the operand is specified implicitly in the definition of the instruction.

    a) Register b) Register Indirect c) Immediate d) Implied

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. State DeMorgan's Theorem.
12. State the uses of Karnaugh map.
13. Draw the truth table for Half subtrator.
14. What is called Flipflops?
15. What is called Indirect addressing?

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I SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2018

I M.C.A. **Digital Logic Fundamentals – MHIC2(6)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Discuss the postulates used to formulate Algebraic structures.
17. Perform the subtraction of binary numbers 10010 – 10011 using
    i) 2's complement ii) 1's complement.
18. Simplify the Boolean function F(w,x,y,z) = ∑ (0,1,2,4,5,6,8,9,12,13,14).
19. Explain the rules for obtaining the NAND logic diagram from a Boolean function.
20. Explain in detail about the Full adder with a neat diagram.
21. Define Encoder. Discuss about Octal-to-binary encoder.
22. Discuss about the serial transfer in digital system.
23. Explain the control signals in microprocessor.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. i) Convert the hexadecimal 2C6B to decimal, octal and binary
    ii) 673_8 to decimal, binary and Hexadecimal.
25. Simplify the following Boolean function using Tabulation method
    F(w,x,y,z) = ∑(0,1,2,8,10,11,14,15).
26. What is multiplexer? Explain how the following Boolean function can be implemented using Multiplexer. F(A,B,C) = ∑ (1,3,5,6).
27. Explain in detail about the working of JK Flipflop with a neat diagram.
28. Discuss in detail about the block diagram of Microprocessor.

**********All the Best*********

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Data and File Structures – MHIC3(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **(20 Marks)**

I. Fill in the blanks **(5X1=5 Marks)**

1. Representation of data structure in memory is known as _____data type.
2. The situation when in a linked list START=NULL is _____flow.
3. Data in a queue normally accessed as_____.
4. One can convert a binary tree into its mirror image by traversing it in _____.
5. The Quick sort algorithm exploits _____ design technique.

II. Choose the correct answer **(5X1=5 Marks)**

6. The smallest element of an array's index is called its

   a) Lower Bound b) Upper Bound c) Range d) Extraction

7. In circular Linked list

   a) Components are all linked together b) There is no beginning and no end

   c) Components are arranged hierarchically d) Forward and backward traversal

8. Convert the infix to postfix for A-(B+C)*(D/E)

   a) ABC+DE/*- b) ABC-DE/*- c) ABC-DE*/+ d) ABCDE*/+-

9. Graph traversal is different from a tree traversal because

   a) Trees are not connected b) Graphs may have loops

   c) Trees have root d) None of these

10. A full binary tree with n leaves contains

    a) n nodes b) (log 2 n) nodes c) (2n-1) nodes d) 2-n nodes

III. Answer the following in One or Two Sentences **(5x2=10 Marks)**

11. Define Data Structure.
12. List the basic operations carried out in a linked list.
13. Give a note on Queue.
14. Give any two advantages of binary search tree.

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Data and File Structures – MHIC3(6)**

15. Define Sorting.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions All questions carry equal marks.(Each answer should not exceed 300 words)

16. Discuss various operations on data structures.
17. Give brief note on Garbage collections.
18. Write the procedure to insert and delete a data in a queue. Illustrate with an example.
19. Explain Graph traversal with example.
20. Explain Bubble sort algorithm with example.
21. Show the detailed content of the stack for the evaluation of the following Expression: 623+-382/+*2$3+
22. Give note on AVL Trees.
23. Explain Linear search in detail.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. All questions carry equal marks.(Each answer should not exceed 600 words)

24. Discuss Traversing linear array in detail.
25. Explain the representation of linked list in memory.
26. Discuss Tower of Hanoi with algorithm.
27. Define Graph. Write the warshalls algorithm and its applications.
28. Explain Merge sort with example.

*************ALL THE BEST************

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I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Programming in C++ – MHIC4(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **(20 Marks)**

I. Fill in the blanks **(5X1=5 Marks)**

1. _____ is valid option will not return a value in C++.
2. _____ is the default visibility derivation mode of inheritance in C++.
3. _____ operators cannot be overloaded.
4. << operator is _____.
5. When one class inherits from the base class, then the original class is called as _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. Which one of the following is not a fundamental data type in C++?
   a) Float b) String c) Int d) Char_t
7. Which of the following is the correct operator to compare two variables?
   a) := b) = c) Equal d) ==
8. What is object in C++?
   a) Object is part of syntax of a class b) Object is datatype of a class
   c) Object is an instance of a class d) Object is function of a class
9. What is default visibility mode for members of classes in C++?
   a) Private b) Public c) Protected d) Depends
10. How we can define member function outside the class?
    a) Using union b) Using structure c) Using pointers d) Using scope resolution

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Name any four C++ keywords.
12. What is the role of a destructor?
13. Mention the role of a file pointer.
14. What is a stream?
15. Write any two error handling functions.

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CHENNAI – 600 018

I SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Programming in C++ – MHIC4(6)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain inline function and its properties.
17. State the difference between while and do while statement.
18. Write short notes on destructors.
19. Write a program to overload binary operator +.
20. Write short notes of type conversion.
21. Explain in brief about virtual functions.
22. How is error handling during file operations?
23. Write about exceptional handling.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the concept of function overloading with a program as example.
25. Explain the various types of constructors.
26. What do you mean by inheritance? Explain the various types of inheritance?
27. How I/Os console operations are managed in C++?
28. Explain the various modes of file operations with example.

---------- **All the Best** ----------

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CHENNAI – 600 018

II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Operations Research – MHIIC5(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. Any feasible solution which optimizes the objective function of the LPP is called _____.
2. In Big M method, the coefficients of the artificial variables in the objective function is _____.
3. In transportation problem, for optimality, the number of non-negative independent allocations is _____.
4. _____is the longest duration of a project network.
5. _____ is the time between starting the first job and completing the last one.

II. Choose the correct answer **(5X1=5 Marks)**

6. A basic solution is said to be _____ if none of the basic variables is zero.

   a) Non - degenerate variables b) Basic variables

   c) Basic solution d) Non - degenerate Basic solution

7. The dual of the dual is

   a) primal b) alternate solution c) dual d) none of these

8. If the non-negative allocations is less than $m + n - 1$ then this initial solution is

   a) Degenerate solution b) basic solution c) non- basic solution d) optimal solution

9. _____is the difference between the latest finish and earliest finish of the each activity.

   a) Free float b) Independent float c) Total float d) None of these

10. _____ is the time the machine remains idle, during total elapsed time.

    a) Idle time b) No passing time c) Total elapsed time d) None of these

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Define the basic solution.
12. Write the Existence theorem in duality.
13. Define non-degenerate basic feasible solution.
14. Define project duration.
15. Explain no passing rule in sequencing problem.

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018
I M.C.A. **Operations Research – MHIIC5(6)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.**

16. A firm manufactures two types of products A and B and sells them at profit of Rs.2 on type A and Rs.3 on type B. Each product is processed on two machines M_1 and M_2. Type A requires 1 minute of processing time on $M_1$and 2 minutes on M_2. Type B requires 1 minute on M_1 and 1 minute on M_2. Machine M_1 is available for not more than 6 hours 40 minutes while machine M_2 is available for 10 hours during any working day. Formulate the problem as a LPP so as to maximize the profit.

17. Solve graphically

Max $z = 5x_1+8x_2$

sub to $15x_1+ 10x_2 \leq 180$

$10x_1+ 20x_2 \leq 200$

$15x_1+ 20x_2 \leq 210$, and $x_1, x_2 \geq 0$.

18. Write the dual of the following LPP.

Maximize $F = 3x_1+10x_2+2x_3$

sub to $2x_1+ 3x_2 +2x_3 \leq 7$

$3x_1 - 2x_2 +4x_3 = 3$ and $x_1, x_2, x_3 \geq 0$.

19. Find the initial basic feasible solution for the following transportation problem by Least Cost method

1	2	6	7
0	4	2	12
3	1	5	11
10	10	10	30

20. Determine the optimum assignment schedule.

	1	2	3	4
A	10	5	13	15
B	3	9	18	3
C	10	7	3	2
D	5	11	9	7

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I M.C.A. **Operations Research – MHIIC5(6)**

21. The following table has given the activities; determine the critical path of the project.

Activity	1-2	1-3	2-4	3-4	3-5	4-9	5-6	5-7	6-8	7-8	8-10	9-10
Duration	4	1	1	1	6	5	4	8	1	2	5	7

22. There are five jobs, each of which is to be processed through two machines M_1, M_2 in the order M_1 M_2.

Processing hours are as follows:

Jobs	A	B	C	D	E	F	G	H	I
M_1	2	5	4	9	6	8	7	5	4
M_2	6	8	7	4	3	9	3	8	11

Determine the optimum sequence for the five jobs and minimum total elapsed time. Find also the idle time of machine $M_1$and M_2.

23. Find the sequence that minimizes the total elapsed time required to complete the following tasks on the machine in the order 1-2-3. Find the minimum total elapsed time and the idle times on the machines.

Task	A	B	C	D	E	F
Machine 1	8	3	7	2	5	1
Machine 2	3	4	5	2	1	6
Machine 3	8	7	6	9	10	9

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.**

24. Solve the LPP using simplex method

Maximize $Z = 4x_1+10x_2$
sub to $2x_1+ x_2 \leq 50$
$2x_1+ 5x_2 \leq 100$
$2x_1+ 3x_2 \leq 90$, and $x_1, x_2 \geq 0$.

25. Use Big - M method to solve

Maximize $Z = 4x_1+3x_2$
sub to $2x_1+ x_2 \geq 10$
$-3x_1+ 2x_2 \leq 6$
$x_1+ x_2 \geq 6$, and $x_1, x_2 \geq 0$.

26. Solve the following transportation problem to maximize the profit

Profit (Rs.)/Unit

	To			supply
From	7	3	2	2
	2	1	3	3
	3	4	6	5
Demand	4	1	5	10

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I M.C.A. **Operations Research – MHIIC5(6)**

27. Construct the network for the project whose activities are given below and compute the total, free and independent float of each activity and hence determine the critical path and the project duration.

Activity	0-1	1-2	1-3	2-4	2-5	3-4	3-6	4-7	5-7	6-7
Duration	3	8	12	6	3	3	8	5	3	8

28. Solve the following sequencing problem giving an optimal solution if passing is not allowed.

	Machines			
	M_1	M_2	M_3	M_4
A	13	8	7	14
B	12	6	8	19
C	9	7	8	15
D	8	5	6	15

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A.

Data Communication and Distributed Computing– MHIIC6(6)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. _____ refers to the way two or more communication devices attach to a link.
2. The term_____ means that two or more bits in the data unit have changed from 1 to 0 or from 0 to 1.
3. A_____ is an electronic device that operates on only the physical layer of the OSI model.
4. A _____ is an n-dimensional cube.
5. _____ is guaranteed without deadlock or starvation.

II. Choose the correct answer **(5X1=5 Marks)**

6. A _____ is a set of rules that govern data communication.
   a) Media b) Criteria c) Protocol d) Network
7. Guard bands increase the bandwidth for
   a) FDM b) Synchronous TDM c) Asynchronous TDM d) All of the above
8. The acronym FTP stands for
   a) Fast Transfer Protocol b) File Transfer Procedure
   c) File Tracking Protocol d) File Transfer Protocol
9. File system is supported by one or more machines called
   a) File servers b) Servers c) Software d) Operating system
10. Processor allocation strategies can be divided into _____ broad classes.
    a) One b) Two c) Three d) Four

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Define network.
12. What is Multiplexing?
13. What is SNMP?
14. Expand NFS.
15. Define Threads.

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A.

Data Communication and Distributed Computing– MHIIC6(6)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Write short notes on Topology.
17. Discuss Error detection with example.
18. Write short notes on WWW.
19. Explain the Bus based multicomputer.
20. Discuss the Clock synchronization.
21. Explain about Modems.
22. Describe the working principles of Bridges.
23. Explain the client/server model.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the various classification of networks in detail.
25. Describe in detail Guided Media.
26. Explain the functions of ISDN layers.
27. Discuss the various design issues of distributed systems.
28. Explain about Atomic Transactions in detail.

*************ALL THE BEST*************

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Database Management Systems–MHIIC7(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. _____is the lowest level of abstraction describes how the data are actually stored.
2. DDL stands for _____.
3. A _____ is organized logically as a sequence of records.
4. Indices with two or more levels are called _____ indices.
5. _____ is a unit of program execution that access possibly updates various data item.

II. Choose the correct answer **(5X1=5 Marks)**

6. DBA stands for

a) Data backup access b) Database administrator

c) Database access d) None of the above

7. A type of data, which can take values of true, false & unknown was introduced in SQL:1999 is

a) Int b) byte

c) Boolean d) char

8. It is the fastest and most costly form of storage.

a) Cache b) Main memory

c) Virtual memory d) None of the above

9. In query processing, it is the lowest – level operator to access data.

a) File scan b) File access

c) File lock d) None of the above

10. We can achieve, high availability by performing transaction processing at one site called as

a) Secondary site b) Primary site

c) Main site d) None of the above

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Database Management Systems–MHIIC7(6)**

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Name the various data models.
12. What is Trigger?
13. Define search key.
14. State equivalence rules.
15. What are ACID properties?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain various areas of database applications.
17. Discuss various aggregate functions in SQL.
18. Explain about file organization.
19. Write short notes on dense and sparse indices.
20. Enumerate various issues must be addressed designing a remote backup system.
21. List out the functions of database administrator.
22. Write short notes on Embedded SQL.
23. Explain BCNF with suitable example.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Discuss in detail about Tuple relational calculus.
25. Explain in detail basic structure of SQL queries.
26. Discuss the significances of physical storage media.
27. Explain an overview on Static hashing.
28. Describe about centralized and client – server architecture with neat diagram.

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018

I M.C.A. **Programming in Java - MHIIC8(6)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A 20 Marks

Answer all the questions. **(5X1=5 Marks)**

I. Fill in the blanks

1. _____is a system that represent some operation that can be performed on data.
2. _____ acquires all the properties and behaviours of a parent object.
3. A _____method can be called by the applet viewer.
4. ODBC stands for _____.
5. _____ method can be called to initialize the servlet.

II. Choose the correct answer (5X1=5 Marks)

6. Which of the following is used with the switch statement?
   a) Continue b) Exit c) Break d) Do
7. Which of these keyword is used to define packages in Java?
   a) Pkgee b) Pkg c) Package d) Packages
8. Which of these stream contains the classes which can work on character stream?
   a) InputStream b) OutputStream c) Character Stream d) All of the mentioned
9. Give the abbreviation of AWT?
   a) Applet Windowing Toolkit b) Abstract Windowing Toolkit
   c) Absolute Windowing Toolkit d) None of the above
10. How Constructor can be used for a servlet?
    a) Initialization b) Constructor function
    c) Initialization and Constructor function d) Setup() method

III. Answer the following in One or Two Sentences (5X2=10 Marks)

11. What is an Array?
12. How to import a Package?
13. What is the use of an Input stream?
14. Define the term “JDBC”.
15. What is HTTP?

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II SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2018
I M.C.A. **Programming in Java - MHIIC8(6)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Elaborate any five important features of Java.
17. Write short notes on Inter thread communication.
18. Explain Event handling.
19. Explain the features of any five AWT controls.
20. Describe about the Menus with suitable example.
21. Write the differences between Method overloading and Overriding.
22. Write short notes on servlet and its life cycle.
23. Discuss about Deadlock.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. List and explain various Operators in Java with example.
25. Elaborate on Exception handling in Java.
26. Describe the significances of Applet in detail.
27. Discuss in detail about Layout managers.
28. Describe the significances of HTTP Response Header.

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. Financial and Management Accounting – MHIIIC9(5)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **(20 Marks)**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. Accounting is expected to ascertain and reveal the net results of the operations of a _____.
2. _____ indicate the relationship of various items with some common items.
3. Analysis and interpretation of financial statements with the help of ratio is termed as _____.
4. _____ is preparing budgets and other procedures for planning, coordination and control of business enterprise.
5. Marginal cost is the additional cost of producing an additional unit of a _____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. A business unit may continue for

   a) Definite Period b) Indefinite Period c) Depreciation d) All of these

7. A comparative statements of change in total capital as well as in

   a) Accounting Convention b) Analysis and interpretation c) Working Capital d) Techniques

8. Current Ratio indicates

   a) Ability to meet short term obligations b) Efficiency of Management

   c) Profitability Ratio d) None of these

9. Sales Budget is

   a) Budget for selling expenses b) Budget of output to be sold

   c) A list of incentives to salesmen d) Budget of Revenue and expenses

10. P/V Ratio

    a) Price variance Ratio b) Contribution to sales ratio

    c) Total cost to sales ratio d) Profit volume ratio

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Write a note on Business Entity Concept.
12. What is meant by Trend Percentages?
13. Write the formula for Operating Ratio.

14. Define Sales Budget.
15. What is Marginal Costing?

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. Financial and Management Accounting – MHIIIC9(5)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Bring out the basic Accounting Concepts.

17. The following are the income statements of X, Y, Z Co. Ltd for the years 1998 and 1999. Prepare common-size income statement for the two years.

Trading and Profit and Loss Account

Liabilities	1998 Rs.	1999 Rs.	Assets	1998 Rs.	1999 Rs.
To Cost of Sales	2,40,000	3,50,000	By Sales	4,00,000	5,00,000
To Gross Profit c/d	1,60,000	1,50,000			
	4,00,000	5,00,000		4,00,000	5,00,000
To Operating Expenses:					
Administration	25,000	30,000	By Gross Profit		
Selling	15,000	20,000	b/d	1,60,000	1,50,000
Distribution	10,000	10,000	By Interest on		
To Non-operating expenses			investments	20,000	50,000
Finance	20,000	20,000			
Goodwill written off	10,000	-			
To Net Profit	1,00,000	1,20,000			
	1,80,000	2,00,000		1,80,000	2,00,000

18. You are given the following information:

	Rs.
Cash	18,000
Debtors	1,42,000
Closing stock	1,80,000
Bills payable	27,000
Creditors	50,000
Outstanding expenses	15,000
Tax payable	75,000

Calculate: (a) Current Ratio (b) Liquidity ratio (c) Absolute liquidity ratio

19. A firm produces two products called 'A and 'B'. The opening balances of the products are 7,800 units and 8,400 units respectively. The estimated sales during a month are 14,700 units and 15,300 units respectively. The required closing balances are 8,200 and 9,000 units. Prepare production budget.

20. Vasanth Ltd. presents the following results for one year. Calculate the P/V Ratio, BEP and Margin of Safety.

	Rs.
Sales	2,00,000
Variable costs	1,20,000
Fixed cost	50,000
Net profit	30,000

21. From the following Trial Balance of Ravi, prepare Trading and Profit and Loss Account of the year ended December 31st 1993 and a Balance Sheet as on that date:

Trial balance

Particulars	Debit Rs.	Credit Rs.
Capital	-	40,000
Sales	-	25,000
Purchases	15,000	-
Salaries	2,000	-
Rent	1,500	-
Insurance	300	-
Drawings	5,000	-
Machinery	28,000	-
Bank Balance	4,500	-
Cash	2,000	-
Stock 1-1-93	5,200	-
Debtors	2,500	-
Creditors	-	1,000
	66,000	66,000

Adjustments required:

a) Stock on 31-12-93 Rs.4,900
b) Salaries unpaid Rs.300
c) Rent paid in advance Rs.200
d) Insurance prepaid Rs.90

22. Calculate Gross Profit Ratio from the following figures:

	Rs.
Sales	10,00,000
Sales return	1,00,000
Opening stock	2,00,000
Purchases	6,00,000
Purchase returns	1,50,000
Closing stock	65,000

23. Draw up a flexible budget for production at 100% capacity on the basis of the following data for a 50% activity.

	Per unit Rs.
Materials	100
Labour	50
Variable expenses (direct)	10
Administrative expenses (50% fixed)	40,000
Selling and distribution expenses (60% fixed)	50,000
Present production (50% activity):	1,000units

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Enumerate in details about advantages and disadvantages of Accounting.
25. Sudeesh & Co, Ltd., furnishes its balance sheet for the years 1999 and 2000 and requests you to prepare a comparative balance sheet for those years.

Balance sheets

Liabilities	1999 Rs.	2000 Rs.	Assets	1999 Rs.	2000 Rs.
Equity share Capital	80,000	80,000	Land & Buildings	80,000	74,000
8% Debentures	80,000	90,000	Plant & Machinery	60,000	54,000
Retained Earnings	40,000	49,000	Furniture	20,000	28,000
Sundry Creditors	50,000	70,000	Inventory	40,000	60,000
Bills payable	10,000	15,000	Debtors	40,000	80,000
			Cash	20,000	8,000
	2,60,000	3,04,000		2,60,000	3,04,000

26. From the following details, compute (a) Current assets; (b) Quick assets and (c) Stock

Current liabilities	Rs.9,00,000
Current ratio	2.5
Acid test ratio	2

(Without prepaid expenses)

27. A newly started Pushpak Co., wishes to prepare cash budget from January. Prepare a cash budget for the 6 months from the following estimated revenue and expenses.

Months	Total sales	Materials	Wages	Production overhead	Selling & Distribution overhead
	Rs.	Rs.	Rs.	Rs.	Rs.
January	20,000	20,000	4,000	3,200	800
February	22,000	14,000	4,400	3,300	900
March	24,000	14,000	4,600	3,300	800
April	26,000	12,000	4,600	3,400	900
May	28,000	12,000	4,800	3,500	900
June	30,000	16,000	4,800	3,600	1,000

Cash balance on 1st January was Rs.10,000. A new machine is to be installed at Rs.30,000 on credit, to be repaid by two equal installments in March and April.
Sales commission at 5% on total sales is to be paid within the month following actual sales.
Rs.10,000 being the amount of 2nd call may be received in March. Share premium amounting to Rs.2,000 is also obtained with 2nd call.
Period of credit allowed by suppliers – 2 months
Period of credit allowed to customers – 1 month
Delay in payment of overheads – 1 month
Delay in payment of wages – ½ month
Assume cash sales to be 50% of the total sales

28. The sales turnover and profit during two years were as follows:

Year	Sales Rs.	Profit Rs.
2007	1,40,000	15,000
2008	1,60,000	20,000

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CHENNAI – 600 018

III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. Financial and Management Accounting – MHIIIC9(5)

Calculate:

a) P/V Ratio
b) Break-even point
c) Sales required to earn a profit of Rs.40,000
d) Fixed expenses and
e) Profit when sales are Rs.1,20,000

----------**All the best**----------

October 2018 2017/PGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018

III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. **Programming in Java – MHIIIC10(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. Java is a true ____language.
2. Method overloading is called _____polymorphism.
3. _____is an object that describes a state changes in state.
4. AWT stands for_____.
5. API stands for_____.

II. Choose the correct answer **(5X1=5 Marks)**

6. _____ is a template for an object.
   a) Abstraction b) Class c) Encapsulation d) None
7. _____wakes up the first thread that called wait() on the same object.
   a) Notify b) Notify all c) a and b d) Resume()
8. ____ method is used to display text in Applet programs.
   a) Drawstring() b) Paint() c) FillArc() d) CopyArea()
9. A _____driver is a software component enabling a java application to interact with a database.
   a) ODBC b) JDBC c) AWT d) API
10. _____ is a subclass of Text component.
    a) Label b) Font c) Textarea d) Fontstyle

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What is an Array?
12. Define Package.
13. What is String?
14. Define List.
15. Write a short notes on servlet.

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CHENNAI – 600 018

III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. **Programming in Java – MHIIIC10(5)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain about the IF statement with example.
17. Discuss about the Synchronization.
18. Explain the Life cycle of Applet.
19. Explain about the Button.
20. Discuss about the Servlet Interface method.
21. Describe the fundamental concepts of Windows.
22. Discuss about the Method overloading.
23. Describe about Character Array.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Define inheritance and Discuss about any three types of inheritance.
25. Discuss about Thread and its creation with example.
26. Explain about the String Buffer.
27. Discuss about Layout Manager and its types.
28. Describe in detail about the life cycle of Servlet.

----------All the best----------

October 2018 2017/PGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018

III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. **Operating Systems – MHIIIC11(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **(20 Marks)**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. In many Operating system, all the information about each process, other than the contents of its own address space, is stored in an Operating System table called the _____.
2. The part of the Operating system that manages the memory hierarchy is called the _____.
3. _____ are system files for maintaining the structure of the file system.
4. NUMA stands for _____.
5. In UNIX, the forking process is called the _____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. Where two or more processes, are reading or writing some shared data and the final result depends on who runs precisely when, are called

   a) Race condition b) Critical region c) Semaphore d) None of the above

7. LRU stands for

   a) Last Recently Used b) Least Recently Used

   c) Limitedly Rare Used d) None of the above

8. The purpose of Cryptography is to take a message or file called the

   a) Plain text b) Cipher text c) Decrypted text d) None of the above

9. The simplest circuit for connection of n CPUs to k memories is the

   a) Omega network b) Crossbar switch c) Cross point d) None of the above

10. NFS stands for

    a) Network File System b) Network File Service

    c) Network File Server d) None of the above

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. What is Semaphore?
12. Define Deadlock.
13. Name any two types of Directory systems.

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017
II M.C.A. **Operating Systems – MHIIIC11(5)**

14. What is Multiprocessor?
15. What is Shell script?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Give a brief note on Process.
17. Explain the Banker's algorithm for a single resource.
18. Write short notes on file structure.
19. Bring out the design issues of an operating system.
20. Write notes on UNIX shells.
21. Explain Round – Robin scheduling with an example.
22. Give a note on swapping.
23. Explain about User authentication.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Discuss about Dining – Philosophers problem with suitable example.
25. Explain about deadlock detection and recovery.
26. Name the various kinds of viruses. Explain any two.
27. Explain the following: i) Mach OS ii) Sequoia system.
28. Discuss the fundamental concept of UNIX file system.

----------All the best----------

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JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018
IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. **Visual Programming– MHIVC12(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. An object datatype can store _____bytes.
2. Visual basic is a tool that allows you to develop application in_____.
3. _____present a list of choices to the user.
4. MDI stands for _____.
5. _____connectivity is independent of any DBMS or Operating system.

II. Choose the correct answer **(5X1=5 Marks)**

6. A Boolean datatype can store _____bytes.
   a) 2 byte b) 4 byte c) 1 byte d) 8 byte
7. RFT stands for
   a) Rich Text Format b) Rich Title Format c) Row Text Format d) Rich Text Function
8. _____displays current directory with any sub directories and allows the user to change directory.
   a) File listbox b) Dir listbox c) Drive listbox d) All of these
9. _____is the process of finding and removing errors.
   a) Check b) Debugging c) Quick watch d) Break
10. COM stands for
    a) Component Object Model b) Class Object Model
    c) Common Object Model d) None of these

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What is Label?
12. Define User-defined Function.
13. What do you meant by Error Trapping?
14. Define Testing.
15. Write a note on OLE drag & drop.

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. **Visual Programming– MHIVC12(5)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Discuss about Text boxes with examples.
17. Write short notes on Built in functions.
18. Define Lists. Explain its types with example.
19. Describe about Menus and its usages.
20. Explain about File system Controls.
21. Discuss about Dialog boxes in detail.
22. Explain the functions of Grid Control.
23. Write short notes on Image controls.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. What is Button? Explain about Command Button in detail.
25. Give syntax and programming examples for Determinate & Indeterminate loop.
26. Explain about Project with Multiple Forms.
27. Discuss about MDI Forms in detail.
28. Describe about File Handling in detail.

**************ALL THE BEST*************

April 2019 2017/PGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*, CHENNAI – 600 018

IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. Data Communication and Distributed Computing – MHIVC13(5)

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. _____ are rules that govern a communication exchange.
2. The inner core of an optical fibre is _____ in composition.
3. ISDN is an acronym for _____.
4. The wiring pattern of the omega network is called _____.
5. The set of events that occur to change the state is called _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. Which agency developing the standards for computing, communication and electronic devices?
   a) ITU-T b) IEEE c) FCC d) DTT
7. In _____ propagation, low frequency radio waves spread in the earth.
   a) Surface b) Troposheric c) Ionospheric d) Space
8. Repeaters function in the _____ layer.
   a) Network b) Data link c) Physical d) Both a and b
9. The property of the crossbar switch is
   a) Non blocking network b) Delay c) Throughput d) None
10. Communication between clients and servers is often done by
    a) Circle network b) Wheel network c) Message parsing d) None

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What is called Full-Duplex?
12. List the four different types of redundancy checks.
13. What do you mean by repeaters?
14. What is called store and forward packet switching?
15. Define thread.

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. Data Communication and Distributed Computing – MHIVC13(5)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Discuss the various categories of networks.
17. Define Modem. Explain the working of Modem.
18. Discuss about use of antennas in terrestrial microwave communication
19. Explain the different types of errors occurred during data transmission.
20. Define Bridge. Explain about the different types of bridges.
21. Explain the components involved in SNMP.
22. Discuss about switched multiprocessor.
23. Discuss how you will implement Client Server system.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Discuss in detail about the various topology with neat diagram.
25. Explain in detail about the transmission technology of guided media with neat diagram.
26. Discuss the Dijkstra routing algorithm to discover the shortest path.
27. Explain various interconnect topologies applicable for multicomputer.
28. Discuss in detail about Election algorithm in Distributed system.

***************ALL THE BEST***********

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. **Open Source Technologies– MHIVC14(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. _____HTML is often implemented with JavaScript and the Document Object Model.
2. _____ uses software called Disk Druid to partition the disk during installation.
3. _____ command is used to create new user with a locked account to run Apache.
4. The _____command gives information about the fields in a table.
5. PHP also has the _____function, which outputs a string and then exits the script.

II. Choose the correct answer **(5X1=5 Marks)**

6. _____ is a language Perl-like in its syntax and providing a rich collection of built-in functions to perform various tasks.

   a) Embperl b) Mason c) PHP d) Apache

7. The ownership of a file can be changed using the _____command.

   a) chown b) chmod c) chmod a + r d) chmod a+w

8. The _____module allows users to serve web content without having access to the main web directory tree.

   a) mod user b) UserDir c) public_html d) .htaccess

9. The _____statement tells MySQL to use the database as the default database.

   a) Desc b) Use c) Select d) None

10. The _____function is used to remove the leftmost element in an array.

    a) array pop() b) array shift() c) array push() d) array_unshift()

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What is open source software?
12. List the advantages of Linux.
13. What is Apache?
14. What are the data types supported by MySQL for Date and Time formats?
15. Define array.

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. **Open Source Technologies– MHIVC14(5)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. What's the difference between open source software and other types of software?
17. Write short notes on Environmental variables.
18. Write a note on Apache log files.
19. Discuss Table joins with an example.
20. What are the data types available in PHP? Explain with examples.
21. Explain PHP MySQL functions with an example.
22. Give some characteristics of Linux?
23. Discuss various ways in which SELECT statement can be used for record selection.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain how web works in serving up static, dynamic and embedded data.
25. Discuss in detail about the commands used in Linux.
26. How to secure Apache Web Server? Discuss in detail.
27. Explain in detail about different types of commands in MySQL.
28. State and explain different types of array functions in PHP with example.

**************ALL THE BEST************

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JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II M.C.A. **Soft Skills IV – Software Engineering– MHIVK4(5)**

Time: Two Hours **Maximum Marks:40**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A **(3 x 2= 6 Marks)**

Answer any three questions. **All questions carry equal Marks.(Each answer should not exceed 50 words)**

1. Define software engineering.
2. What is abstraction?
3. Define flowchart.
4. Differentiate verification and validation.
5. What is Quality assurance?

Section – B **(2 x 5 = 10 Marks)**

Answer any two questions **All questions carry equal Marks. (Each answer should not exceed 250 words)**

6. Write short notes on spiral model.
7. Briefly explain the concept of modularity.
8. Discuss program design language.
9. Give a brief account on validation testing.
10. Explain about white box testing.

Section – C **(3 x 8 = 24 Marks)**

Answer any three questions. **All questions carry equal Marks. (Each answer should not exceed 400 words).**

11. Explain waterfall model.
12. Write about software architectural design.
13. Discuss interface analysis.
14. Explain the concept of system testing.
15. Write about formal technical reviews.

********ALL THE BEST********

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JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
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V SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2016

III M.C.A. **Digital Image Processing – MHVC15(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. _____ is the first fundamental step in Image processing.
2. _____ is a tool for Image enhancement in the Frequency Domain.
3. The result of sampling and quantization is a matrix of _____ numbers.
4. _____ is an area that deal with improving the appearance of an image.
5. _____ is a techniques for reducing the storage required to save the image.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. One that is not a color model is

   a) RCB b) CMYK c) RGB d) HSI

7. Digitizing co-ordinates of image is called

   a) Sampling b) Quantization c) Framing d) Both a and b

8. Histogram is a technique processed in

   a) Intensity domain b) Frequency domain c) Spatial domain d) None of the above

9. Image can be blurred using

   a) Low pass filter b) Contouring c) Erosion d) High pass filter

10. JPEG is a commonly used method of _____ for digital images.

    a) Lossy compression b) Lossless compression c) Both a and b d) None of the above

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Which color model is used in printer?
12. What is the use of smoothing Filters?
13. Define image Enhancement.
14. What do you mean by multi spectral thresholding?
15. Write the advantage of image compression.

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V SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2016

III M.C.A. **Digital Image Processing – MHVC15(5)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Write brief notes on Image sensing and Acquisition.
17. Discuss in detail about RGB color model.
18. Write short notice on Histogram Processing
19. Write brief notes on Thresholding.
20. Explain about image enhancement using Arithmetic operation.
21. Discuss about Noise probability density function.
22. Explain image restoration.
23. Explain lossy and lossyless compression.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain in detail about fundamental steps in Digital image processing.
25. Explain about some Gray level Transformation.
26. Discuss in detail about Frequency domain filtering operation.
27. Explain briefly the Region based segmentation.
28. Explain in detail about Image compression models.

************ALL THE BEST************

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JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
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V SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2016

III M.C.A. **Data Mining and Warehousing – MHVC16(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. _____ is the process of extracting knowledge from large amounts of data.
2. The degree to which numerical data tend to spread is called _____.
3. _____ is the main goal of data mining.
4. Outlier analysis is one of the _____.
5. Bottom tier of data warehouse architecture is _____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. Interesting patterns are
   a) Novel b) Valid
   c) Potentially useful d) All of these
7. Data Cleaning is
   a) Combine multiple data source b) Remove inconsistent data
   c) To identify different patterns d) Retrieve relevant data from database
8. Data purging means
   a) Cleaning junk data b) Summarization of the general features of a target class of data
   c) Process of converting data from one format to another d) None of these
9. Causes of model over fitting
   a) Due to presence of noise b) Due to lack of representative samples
   c) Due to multiple comparison procedure d) All of these
10. Data warehouse is said to be non-volatile because
    a) Remains same even after the system crashes b) Life span is to long
    c) Read only data d) Disappears system is switched off

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Define the Data mining task Primitives.
12. What do you mean by Data integration and Transformation?
13. List the Issues related to Classification and Prediction.

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V SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2016
III M.C.A. **Data Mining and Warehousing – MHVC16(5)**

14. Define the Features of Density-based clustering methods.
15. Define Data warehouse.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Discuss briefly about Data Mining Techniques.
17. Explain the different steps in Pre-processing of data.
18. Write short notes on Naive Bayesian classification with example.
19. Describe the Features of Partition based clustering algorithms.
20. Explain about Development Lifecycle of a Data warehouse with diagram.
21. Write short notes on Data Discretization.
22. Discuss about Outlier Analysis.
23. Explain about OLAP operations in the Multidimensional Data Model.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Describe about the various Functionalities of Data mining as a step in the process of Knowledge discovery.
25. Explain about Association rule mining and Apriori algorithms in detail with example.
26. Discuss about the various Data Classification techniques in detail.
27. Explain about the Classifications of major Clustering methods in detail
28. Draw an Architecture of data warehouse and explain in detail.

************ALL THE BEST************

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CHENNAI – 600 018
V SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2016

III M.C.A. **.Net Technologies – MHVC17(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. _____ is a collection of variables of the same type that are referred to by a common name.
2. To access an ASP.NET website, a visitor browser to be _____ page.
3. One of the most common ways to store information is in _____.
4. SQL stands for _____.
5. _____ is designed as an all-purpose format for organizing data.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. An _____ is a notification that some action has occurred.
   a) Delegates b) Event c) Parameter-list d) Exception
7. HTML stands for
   a) Hyper Text Markup Language b) High Text Markup Language
   c) Hyper Text Mark Language d) None of the above
8. _____ controls are web controls that model complex user interface elements.
   a) Rich b) Textbox c) Radio d) Calendar
9. The _____ displays a single record at a time.
   a) Details View b) Form View c) Grid View d) Paging
10. _____ is a programming shorthand for a set of technique that create more-response, dynamic pages.
    a) Java b) .NET c) Ajax d) Python

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Define Inheritance.
12. What is Page class?
13. What is Application state?
14. Define ADO.NET.

15. What is LINQ?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Write short notes on Data types in C#.
17. How to design a Web page? Explain with an example.
18. Explain about Cookies.
19. What is Direct Data Access? Explain.
20. Explain the XML classes.
21. Explain operator overloading with an example.
22. Write about Handling Exceptions.
23. Describe the Grid View in detail.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the various operators available in C#.
25. Explain the following in ASP.NET:
    a) Web control classes b) Table controls
26. Describe the Menu control in detail.
27. What is Data Binding? Explain its types.
28. Discuss about File System Information.

*************ALL THE BEST************

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V SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2016

III M.C.A. **Artificial Neural Networks – MHVCE4(5)**

TIME: THREE HOURS **MAXIMUM MARKS: 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

Section-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. The axon terminates in a specialised contact called a _____.
2. Neuron Units using the learning algorithm are called _____.
3. A probabilistic version of SOM is _____.
4. ART stands for _____.
5. ADAM stands for _____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. Elementary Linguistic units which are smaller than words are

   a) Allophones b) Phonemes c) Syllables d) All of the mentioned

7. A Perceptron is

   a) Single layer Feed- Forward neural network with pre-processing

   b) An auto-associative neural network

   c) A double layer auto-associative neural network

   d) A neural network that contain feedback

8. SOM stands for

   a) Self Organizing Maps b) Save Organizing Maps

   c) Standard Organizing Maps d) Self Operating Memory

9. Constraint Satisfaction problem on finite domains are typically solved using a form of

   a) Search Algorithm b) Heuristic search Algorithm

   c) Greedy search Algorithm d) All of the above

10. Willshaw net has been suggested by

    a) Dr.Jim Austin b) Baye's Law

    c) Mc.Culloch and Pitts d) Frank Rosenblatt

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V SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2016
III M.C.A. **Artificial Neural Networks – MHVCE4(5)**

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Define Pattern Recognition.
12. What is Fault Tolerance?
13. What is Weight Training?
14. Define Constraint Satisfaction.
15. Define Associative Memory.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain about Discriminant Function.
17. Discuss about the Applications involved in the Multi-layer Perceptrons.
18. Write short notes on the Learning Vector Quantization (LVQ).
19. Explain about Boltzmann Machine in detail.
20. Write short notes on RAMS and N-tupling.
21. Explain the features of basic neuron with diagram.
22. Write short notes on Pattern Recognition in Perspective.
23. Discuss about Kohenen Algorithm in detail.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the Structure of Brain in detail with neat diagram.
25. Discuss about the Multi-layer Perceptron Algorithm in detail.
26. Describe about the Phonetic Typewriter in detail.
27. Draw the Architecture of ART and discuss in detail.
28. Explain about the Willshaw's Associative Net in detail.

************ALL THE BEST************

October 2018 2018/UGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018

I SEMESTER **(Arrear)**–Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science
- Digital Electronics and Microprocessor -QIC1(6)/

I B.C.A **- Digital Electronics and Microprocessor - RIC1(6)**

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. 4 bits is called _____
2. A logic circuit that can store one bit of information is a _____.
3. _____ are called Universal gates.
4. A BCD counter is also called as _____.
5. _____ bits are used in the data bus.

II. Choose the correct answer **(5X1=5 Marks)**

6. Decimal equivalent of 25 in binary is

   a) 11001 b) 101010 c) 11000 d) 11110

7. What is the equivalent gray code of 101011

   b) 100010 b) 101100 c) 110100 d) 11110

8. Multiplexer is a

   a) Sequential circuit b) combinational circuit

   c) Sequential circuit and combinational circuit d) None of the above

9. Invalid state does not occur in

   a) R-S Flip flop b) J-K Flip flop c) Clocked R-S Flip flop d) None of the above

10. 8085 is a _____ processor

    a) 8 bit b) 16 bit c) 32 bit d) 64 bit

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I SEMESTER **(Arrear)**–Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science
- Digital Electronics and Microprocessor -QIC1(6)/

I B.C.A
- Digital Electronics and Microprocessor - RIC1(6)

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. State Demorgans laws.
12. Define Prime implicant.
13. Define Encoders.
14. Define Flipflops.
15. What is micro computer?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Convert the given decimal number 465 to binary octal and hexa decimal.
17. Explain NOR as Universal gate.
18. Simplify the Boolean function using K-Map

    $F(A,B,C,D) = \sum(0,1,2,3,8,9,10,11,15)$
19. Explain Full adders.
20. Explain J-K Flip flop in detail.
21. Give note on various addressing modes.
22. List the basic theorems and properties of Boolean algebra.
23. Explain Serial in and serial out shift registers.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

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I SEMESTER **(Arrear)**–Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science
- Digital Electronics and Microprocessor -QIC1(6)/

I B.C.A **- Digital Electronics and Microprocessor - RIC1(6)**

24. Write short note on the following:
    a) Binary codes
    b) Logic gates.
    c) Perform binary subtraction using 2's compliment 11100 – 1010.
25. Simplify the Boolean function F(W,X,Y,Z) = ∑(2,6,8,9,10,11.14,15)
    Using Tabulation method.
26. Explain 4 to 1 Multiplexers and 1 to 4 Demultiplexers.
27. Discuss about 4 bit binary ripple counters.
28. With the neat diagram explain the Architecture of 8085 microprocessor.

---------- **All the Best**----------

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II SEMESTER **(Regular)**– Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science **Programming in C – QIIC2(6)**

I B.C.A. **Programming in C – RIIC2(6)**

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1._____ is a name of a variable, function, symbolic constant and so on.

2._____ statement is an unconditional control statement.

3.Function calling itself is called _____.

4.Variable that holds memory addresses are called _____.

5. _____ is a function to write data in a file.

II. Choose the correct answer **(5X1=5 Marks)**

6.Variable declared as long int occupies _____bytes of memory.

a) 10 b) 2 c) 4 d) 8

7.Alternative Statement for If and Nested If is

a) for b) exit c) switch d) while

8._____ is the default storage class in C.

a) extern b) register c) static d) auto

9.Single subscripted variable is referred as _____array.

a) Multi-dimensional b) 3-D c) 2-D d)1-D

10. _____ is a user-defined compound data type consists of data members of different data type.

a) enum b) array c) structure d) pointer

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What is an Expression? Give example.

12. Write the purpose of break statement.

13. What is a function? Write its syntax.

14. Define Array. Write its types.

15. Give the syntax and example for Structure.

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II SEMESTER **(Regular)**– Applicable to candidates admitted in the year 2018

I B.Sc. Computer Science **Programming in C – QIIC2(6)**

I B.C.A. **Programming in C – RIIC2(6)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Discuss the various data types in C with example.
17. List and explain various input statements in C with example.
18. Explain about Recursive functions in C.
19. Discuss Unions in C with example.
20. How do you open and close a file in C? Give example.
21. List any five keywords in C. Explain with example.
22. Write short notes on passing pointer to function.
23. Explain ftell() and fseek() functions in C.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the various operators in C with example.
25. Discuss the Control Statements in C with example.
26. Describe the significances of Storage Classes with example.
27. How do you declare a Multi-dimensional array? Explain with programming example.
28. Explain about Passing Structures to function with example.

----------All the Best ----------

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JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II B.Sc. Computer Science - Object Oriented Programming with C++ – QIIIC3(5)/

II B.C.A. - Object Oriented Programming with C++ – RIIIC5(5)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. **Fill in the blanks** **(5 X 1 = 5 Marks)**

1. _____ operators cannot be applied to a pointer.
2. Use of virtual functions implies _____.
3. A copy constructor takes _____.
4. Run-Time polymorphism is achieved by _____.
5. In fopen( ), the mode, that opens a binary file for reading is _____.

II. Choose the correct answer **(5 X 1 = 5 Marks)**

6. Which of the following is an object-oriented programming?

a) Real time system b) A1 and expert system

c) C++ d) All of the above

7. A function that calls itself for its processing is known as _____ function.

a) Recursive b) Inline c) Overloaded d) Polymorphism

8. Overloading is otherwise called as

a) Virtual Polymorphism b) ad-hoc Polymorphism

c) Pseudo Polymorphism d) Dynamic Polymorphism

9. The process of building new classes from existing one is called

a) Inheritance b) Structure c) Polymorphism d) Encapsulation

10. Exception handling is targeted at

a) Assembling b) Run-Time c) Compile time d) Debugging

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II B.Sc. Computer Science - Object Oriented Programming with C++ – QIIIC3(5)/

II B.C.A. - Object Oriented Programming with C++ – RIIIC5(5)

III. Answer the following in One or Two Sentences **(5 X 2 = 10 Marks)**

11. Define Keywords.
12. What is function prototype?
13. What is a copy Constructor?
14. Define pure virtual function.
15. What is the purpose of throw statement?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. What are the benefits of OOPS?
17. Discuss about Inline function.
18. Explain the types of constructors with a programming example.
19. Explain file pointers and their manipulators.
20. Discuss about streams in C++.
21. Explain with examples any five types of operators in C++.
22. What is Data encapsulation? Explain with an example.
23. Write short notes on Abstract class.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the control structures available in C++.
25. Write short notes on 1) call By Reference 2) Function Overloading
26. Explain overloading using a unary and a binary operator with an example.
27. Explain the types of inheritance with suitable examples.
28. Discuss about exception handling in C++.

---------- ***All the Best*** ----------

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II B.Sc. Computer Science - Object Oriented Programming with C++ – QIIIC3(5)/

II B.C.A. - Object Oriented Programming with C++ – RIIIC5(5)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. **Fill in the blanks** **(5 X 1 = 5 Marks)**

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III SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II B.Sc. Computer Science - Object Oriented Programming with C++ – QIIIC3(5)/

II B.C.A. - Object Oriented Programming with C++ – RIIIC5(5)

III. Answer the following in One or Two Sentences **(5 X 2 = 10 Marks)**

11. Define Keywords.
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14. Define pure virtual function.
15. What is the purpose of throw statement?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. What are the benefits of OOPS?
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18. Explain the types of constructors with a programming example.
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21. Explain with examples any five types of operators in C++.
22. What is Data encapsulation? Explain with an example.
23. Write short notes on Abstract class.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain the control structures available in C++.
25. Write short notes on 1) call By Reference 2) Function Overloading
26. Explain overloading using a unary and a binary operator with an example.
27. Explain the types of inheritance with suitable examples.
28. Discuss about exception handling in C++.

---------- ***All the Best*** ----------

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III SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2017

II B.Sc. Computer Science/
II B.C.A.

Data and File Structures -QIIICE1(5)/RIIIC4(5)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5X1=5 Marks)

1. _____is a finite step-by-step list of well-defined instructions for solving a particular problem.
2. Collection of data elements in a linked list is called_____.
3. Function is said to be _____ defined if the function definition refer to itself.
4. _____ of a tree T is the maximum number of nodes in branch T.
5. H:K->L is called _____function.

II. Choose the correct answer (5X1=5 Marks)

6. _____notation is used when the function g(n) defines a lower bound for the function f(n).
   a) Big oh b) Little oh c) Theta d) Omega
7. _____ linked list is a linked list contains a special nodes called header node at the beginning of the list.
   a) Ground b) Header c) Circular d) Record
8. _____ is a linear list in which elements can be added or removed at either end but not in the middle.
   a) Deque b) Priority queue c) Queue d) Circular queue
9. Directed graph G also called as
   a) Linkgraph b) Unigraph c) Multigraph d) Digraph
10. Two different keys k1 and k2 gives the same address is called
    a) Collision b) Chaining c) Hashing d) Ciphertext

III. Answer the following in One or Two Sentences (5X2=10 Marks)

11. What is meant by Data Structure?
12. What is meant by Garbage Collection?
13. Write the operation of Queue.

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III SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2017

II B.Sc. Computer Science/
II B.C.A.

Data and File Structures -QIIICE1(5)/RIIIC4(5)

14. Define Binary Tree.
15. What is meant by Sorting?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain the algorithm for traversing a linear array.
17. Write short notes on Representation of a Linked List in memory.
18. Explain about Operations on Stack with an example.
19. Write an algorithm for Breadth-First Search.
20. Explain about the algorithm for Linear Search.
21. Write short notes on Traversing a Linked List.
22. Write short notes on Adjacency matrix with an example.
23. Explain about Insertion Sort with an example.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain about various mathematical notations and functions used in an Algorithms.
25. Discuss about Two-Way Linked List.
26. Explain about Quick-Sort Algorithm with an example.
27. Describe various Binary Tree Traversals with example.
28. Write an Algorithm for Merge-Sort with an example.

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017

II B.Sc. Computer Science **Programming in Java– QIVC4(5)**

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions **20 Marks**

I. Fill in the blanks **(5 x 1 = 5 Marks)**

1. _____operator is used to allocate memory for an object.
2. _____keyword can be used to prevent Method overriding.
3. _____ is a special type of program that is embedded in the webpage to generate the dynamic content.
4. HTTP means _____.
5. JDBC stands for _____.

II. Choose the correct answer **(5 x 1 = 5 Marks)**

6. Which of the following is not OOPS concept in Java?

   a) Inheritance b) Encapsulation c) Polymorphism d) Compilation

7. Which of the following keyword can be used in a subclass to call the constructor of superclass?

   a) super b) this c) extent d) extends

8. Which of the following functions is called to display the output of an applet?

   a) display() b) paint() c) displayApplet() d) printApplet()

9. When init() method of servlet gets called?

   a) The init() method is called when the servlet is first created

   b) The init() method is called whenever the servlet is invoked

   c) Both of the above d) None of the above

10. Which of the following is used to undo JDBC transaction?

    a) rollback() b) rollforward()

    c) deleteTransaction() d) RemoveTransaction()

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IV SEMESTER **(Regular)** – Applicable to candidates admitted in the year 2017
II B.Sc. Computer Science **Programming in Java– QIVC4(5)**

III. Answer the following in One or Two Sentences **(5 x 2 = 10 Marks)**

11. Define Encapsulation.
12. Describe Applet.
13. What is Multithreading?
14. Define Cookies.
15. Discuss Metadata.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. ***A*ll questions carry equal marks.(Each answer should not exceed 300 words)**

16. Discuss about java data types. Give example.
17. What is the highlight of try,catch,throw,throws,finaly in exception handling?
18. Bring out the function of Layout manager.
19. Review various types of HTTP requests and responses.
20. Differentiate database and database schema.
21. Summarize java operators with examples.
22. Write short notes on packages.
23. Express the brief overview of JDBC.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain in detail about control statements of java.
25. Describe a) super class b) super keyword c) overriding d) final keyword.
26. Discuss in detail about AWT graphics classes.
27. Describe the significances of Servlet.
28. Explain table creation,insertion,selection,updation and deletion using JDBC with SQL.

---------- **All the Best** ----------

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V SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016
III B.Sc. Computer Science/
III B.C.A.

Computer Architecture –QVC5(5)/RVC10(5)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. The program that translates a high-level language program to binary is called _____.
2. A _____ is a storage device that stores information in such a manner that the item stored last is the first item retrieved.
3. A _____is used to test various status conditions in the interface and peripheral.
4. _____ is accessed simultaneously and in parallel on the basis of data control rather than by specific address.
5. A bus that connects major components in a multiprocessor system such as CPUs,IOPs, and memory is called _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. The _____ field may be empty or it may specify a symbolic address.
   a) Label b) Instruction c) Comment d) Operand
7. Which instruction designates a transfer from a processor register into memory?
   a) Move b) Store c) Exchange d) Load
8. ASCII Character most often are stored
   a) One per byte b) Two per byte c) Three per byte d) Four per byte
9. The memory unit that communicates directly with the CPU is called
   a) Main memory b) Secondary memory c) Distributed memory d) Virtual Memory
10. The _____ Algorithms gives the highest priority to the requesting device that has not used the bus for the longest interval.
    a) FIFO b) LRU c) Time slice d) Round-Robin

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Give example for High-Level Programming languages.
12. What do you mean by Control Word?

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CHENNAI – 600 018

V SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016
III B.Sc. Computer Science/
III B.C.A.

Computer Architecture –QVC5(5)/RVC10(5)

13. Define Interrupt Vector.
14. What is bootstrap loader?
15. Define Loosely Coupled System.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Describe Assembly Language.
17. Explain about Instruction Formats.
18. Discuss about DMA with neat diagram.
19. Write about Cache Memory.
20. With suitable Diagram explain Parallel Arbitration Logic.
21. Write short notes on Program Loops.
22. Discuss the Characteristics of RISC.
23. Write about Cache Coherence.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed600 words)**

24. Discuss in detail about I/O programming.
25. Explain in detail Data transfer and Manipulation.
26. Explain about Asynchronous Data Transfer.
27. Describe in detail about Associative Memory.
28. Explain about Interconnection Structure with neat diagram.

---------- **All the Best**----------

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CHENNAI – 600 018

V SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science

Database Management Systems –QVC6(5)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. _____ consists of collection of interrelated data and a set of programs to access data.
2. A _____ is a select statement that is embedded in a clause of another select statement.
3. Many application defines _____ particularly for commands that are used frequently.
4. Data warehouses and _____ tools are based on a multidimensional data model.
5. _____ is one of the common techniques used in DDMA which is replication of data across different sites.

II. Choose the correct answer **(5X1=5 Marks)**

6. _____normal form has no transitive dependency
   a) First b) Second c) Third d) Fourth
7. The _____keyword tells the DBMS to display only the rows that are unique.
   a) Order by b) Distinct c) Select d) count
8. _____which display data from two tables that have many relationships.
   a) Tabular Form b) Switchboard form c) Sub form d) Single row form
9. _____where data relevant to the analysis task are retrieved from the database.
   a) Data transformation b) Data Selection c) Data Integration d) None of the above
10. _____ is an integrated database system formed by a collection of two or more autonomous database systems.
    a) Client - Server Architecture b) Peer- to-Peer Architecture
    c) Multi - DBMS Architectures d) None of the above

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. Define Normalization.
12. List the set operations of SQL.

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V SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science

Database Management Systems –QVC6(5)

13. Define Sub form.
14. What are the merits of Data Warehouse?
15. What is meant by Distributed Database?

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain in detail about purpose of Database System.
17. What is a sub query? Explain with examples.
18. Write a note on ACID Properties.
19. Explain the applications of OLAP.
20. Discuss about database security and its types.
21. Discuss the difference between association aggregation and composition with an example.
22. Write about the Basic SQL commands with an example.
23. Discuss the various data mining techniques.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed600 words)**

24. Explain 1NF, 2NF and 3NF with an example.
25. Write short notes on the following:
    [i] Data manipulation language
    [ii] Data definition language
    [iii] Data control language
26. Explain the Effective Design of Forms and Reports.
27. Describe the data warehouse architecture with a neat diagram.
28. Explain the characteristics, advantages and disadvantages of Distributed Databases.

---------- **All the Best**----------

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CHENNAI – 600 018

V SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science **Visual Programming –QVC7(5)**

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. _____ property set the title of the form.
2. _____ holds integers between -2,124,483,648 and +2,147,483,647.
3. _____ is usually described as the template or blueprint from which an object is actually made.
4. _____ is the bottom pane in the browser gives a short definition of the object.
5. MDI stands for _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. The Toolbox consists of

   a) Label b) Textbox c) Command Button d) All of the above

7. The statement is used to delete an array.

   a) Erase b) Delete c) Delete stno d) None of the above

8. _____ statement is used for disabling error trapping.

   a) Error (Err.no) b) On Error Goto 0 c) On error resume next d)Resumenext

9. _____ is nothing more than combining the data and behavior in one package and hiding the implementation of the data.

   a) class b) encapsulation c) inheritance d) module

10. OLE means

    a) Object Loading and Editing b) Object Linking and Embedding

    c) Object Loading and Embedding d) Object Linking and Editing

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. List few Form properties.
12. Write a note on LTrim function.
13. Define Resume Next.
14. List the methods to create object in VB.

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CHENNAI – 600 018

V SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science **Visual Programming –QVC7(5)**

15. Define Pattern property of file.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Describe about Properties Window.
17. Explain about the different Data types in VB.
18. Discuss about the submain function.
19. Write short notes on common dialog box.
20. Explain about the MDI Forms.
21. Describe in detail the one dimensional array.
22. Discuss the significances of the testing.
23. Explain the functions of OLE Drag Drop with example.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Describe about the Properties of Form.
25. Explain various String Functions in VB with example.
26. Discuss in detail the Error Trapping.
27. Describe the concept of Object Oriented Programming.
28. Explain about the File Handling Function.

---------- **All the Best**----------

October 2018 2016/UGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN *(Autonomous)*,
CHENNAI – 600 018

V SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science **Software Testing – QVCE4(5)**

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks **(5X1=5 Marks)**

1. Duration of extremely large project is _____.
2. WBS stands for _____.
3. "Are we building the right product "? Is called _____.
4. A flow graph containing _____ different types of elements.
5. Automating human activities in order to validate the application is called _____.

II. Choose the correct answer **(5X1=5 Marks)**

6. The software content transferred from one computer system to another is called
   a) Portability b) Reliability
   c) Efficiency d) Accuracy
7. A decision table is segmented into
   a) Two quadrants b) Four quadrants
   c) Three quadrants d) None of the above
8. The goals of software testing may classified into _____ major categories.
   a) Five b) Four c) Three d) Two
9. PDL stands for
   a) Programming Decision language b) Programming data language
   c) Process decision language d) Programming design language
10. It is a set of possible values of an independent variables.
    a) Domain b) Path
    c) Case d) None of the above

III. Answer the following in One or Two Sentences **(5X2=10 Marks)**

11. What is software engineering?
12. Mention the use of transition tables.
13. What is verification?

14. Name the four different elements of flow graph.
15. Define the term domain.

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain various project size categories.
17. Write a note on Delphi cost estimation.
18. Explain the difference between testing and debugging.
19. Describe the basics of data flow testing.
20. Explain the need of automated testing tools.
21. Highlight the factors to be considered in project planning.
22. Analyse the concept of SADT.
23. State and explain various types of coupling.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed600 words)**

24. Describe any five factors that influence software quality and productivity.
25. Explain the major factors that influence software cost.
26. Discuss the goals of software testing.
27. Explain the basics of Path testing.
28. Write notes on the following:
    i) Interface testing.
    ii) Structural metrics.

---------- **All the Best**----------

April 2019 2016/UGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN*(Autonomous)*,
CHENNAI – 600 018

VI SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science **Computer Networks – QVIC8(5)**

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5X1=5 Marks)

1. OSI reference model has _____ layers.
2. DNS stands for _____.
3. _____ is the minimum header size of an IP Packet.
4. Cable TV networks uses _____ cables.
5. Dual cable and signal cable are the two types of _____.

II. Choose the correct answer (5X1=5 Marks)

6. What is the use of Bridge in network?
   a) To connect LANs b) To seperate LANs
   c) To control network speed. d) All of the above
7. Which protocol is used to send a destination network unknown message back to originating hosts?
   a) TCP b) ARP c) ICMP d)BootP
8. Where is a hub specified in the OSI model?
   a) Session layer b) Physical layer c) Data link layer d) Application layer
9. The protocol data unit(PDU) for the application layer in the Internet stack is
   a) Segment b) Datagram c) Message d) Frame
10. Which of the following transport layer protocol is used to support electronic mail?
    a) SMTP b) IP c) TCP d) UDP

III. Answer the following in One or Two Sentences (5X2=10 Marks)

11. Define Network.
12. What do you mean by Protocol?
13. State the term Router.
14. Expand TCP and UDP.
15. What do you mean by E-Mail?

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VI SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science **Computer Networks – QVIC8(5)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Explain the uses of networks.
17. Discuss the issues involved in data link layer.
18. Give a brief note on Tunneling.
19. How the connection is established in Transport protocol? Explain.
20. Write a brief note on Cryptography.
21. Discuss Switching and its types.
22. Explain about A simplex protocol.
23. Write short notes on Fragmentation.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed600 words)**

24. Describe the functions of OSI reference model.
25. Discuss Error detection and correction in Data link layer.
26. Explain Distance vector routing in detail.
27. Discuss The Transport Service in detail.
28. Give detailed note on Digital signature.

---------- **All the Best**----------

April 2019 2016/UGR

JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN*(Autonomous)*,
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VI SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science .Net Technologies – QVIC9(5)

III B.C.A. .Net Technologies – RVIC13(5)

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5X1=5 Marks)

1. The .NET Framework provides a runtime environment called _____.
2. _____ is an activity of deriving a new class form an old class.
3. The _____ control is used to select only one option at a time.
4. _____control is used to validate if two fields are equal.
5. IIS stand for _____.

II. Choose the correct answer (5X1=5 Marks)

6. A variable which is declared inside a method is called a _____variable.

   a) Serial b) Local c) Private d) Static

7. The first event triggers in an aspx page is

   a) Page_Init() b) Page_Load() c) Page_click() d) None

8. The _____ control enables users to navigate from one page to another in an application.

   a) Hyperlink b) Scrollbar c) Image control d) Dropdown

9. Use a _____to store the data that you retrieved from a data source.

   a) Dataset b) Databind c) Data adapter d) None

10. In ASP.NET the sessions can be dumped by using

    a) Session.Dump b) Session.Abandon c) Session.Exit d) None

III. Answer the following in One or Two Sentences (5X2=10 Marks)

11. Define Array and its types.
12. What are Delegates?
13. Define the term Textbox.
14. What is dataset?
15. Define Website.

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VI SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science .Net Technologies – QVIC9(5)

III B.C.A. .Net Technologies – RVIC13(5)

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. What are operators available in C#? Explain.
17. Illustrate the concepts of Inheritance in C#.
18. Explain AdRotator control in ASP.NET.
19. Describe the data adapter class.
20. Write a note on ASP.NET Applications.
21. How the Common Language Runtime works? Explain.
22. Explain operator overloading in C# with example.
23. Discuss the Validation control in ASP.NET.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain in detail program control statements in C#.
25. Describe the structure of Exception Handling with suitable example.
26. Explain Basic Web Server controls in ASP.NET.
27. Discuss ADO.NET connection and command classes.
28. How will you create a simple Web Service? Explain in detail.

---------- **All the Best**----------

April 2019 2016/UGR

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CHENNAI – 600 018

VI SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science **Operating Systems – QVICE3(5)**

TIME: THREE HOURS **MAXIMUM MARKS : 100**

The first ten minutes should be used for reading the question paper only. The students should not begin to answer the questions in the first ten minutes.

SECTION-A

Answer all the questions. **20 Marks**

I. Fill in the blanks (5X1=5 Marks)

1. _____ is a logical extension of multiprogramming.
2. Each process is represented in the operating system by a _____.
3. _____model consists of a finite number of a finite number of resources to be distributed among a number of computing process.
4. The finite circular buffered is used to implement _____strategy.
5. The file that stores an integer as a sequence of characters is a _____.

II. Choose the correct answer (5X1=5 Marks)

6. _____ system used to tackle many commercial and scientific application.
   a) Main frame b) Time sharing c) Desktop d) Palmtop
7. The process is in _____ state for same event occur.
   a) Running b) Ready c) Waiting d) Terminate
8. _____time is expressed as a turnaround time less actual execution time.
   a) CPU b) Waiting c) Response d) Request
9. _____ of the following is not a page replacement algorithm.
   a) LRU b) FIFO c) LIFO d) None of the above
10. _____ of the following file names can be found more in directory.
    a) Bin b) Password c) Both (a) and (b) d) None of the above

III. Answer the following in One or Two Sentences (5X2=10 Marks)

11. What is System Calls?
12. Define Semaphore.
13. What is swapping?
14. Write the use of Demand Paging.
15. Define Password.

April 2019 2016/UGR

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CHENNAI – 600 018

VI SEMESTER **(Regular)**–Applicable to candidates admitted in the year 2016

III B.Sc. Computer Science **Operating Systems – QVICE3(5)**

Section – B

(5 x 7 = 35 Marks)

Answer any five questions. **All questions carry equal marks.(Each answer should not exceed 300 words)**

16. Discuss the Inter process communication.
17. What are the criteria for CPU Scheduling? Explain.
18. Discuss about paging concept.
19. Explain FIFO Page Replacement Algorithms.
20. Explain various File Access methods.
21. Write a note on Multiprocessor systems.
22. Explain the two Synchronization hardware functions.
23. Discuss the Demand paging system.

Section – C

(3 x 15 = 45 Marks)

Answer any three questions. **All questions carry equal marks.(Each answer should not exceed 600 words)**

24. Explain various Operating System Services in detail.
25. Distinguish between long term and short term scheduler.
26. What is deadlock? Explain its detection and recovery.
27. What is thrashing? What are the causes of thrashing? Bring out the remedy for thrashing.
28. Explain the types of directory structure and its functions in detail.

---------- **All the Best**----------