FINAL YEAR
SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: DSP/IP   MARKS: 25

Note:-Solve any two

Q1) Compute the FFT for the sequence x(n) = n+1 where N=8 using DIT algorithm.   **(12 M)**

Q 2) Given $x(n)=2^n$ and N =8 Find X(k) using DIF-FFT algorithm.   **(13 M)**

Q 3) An input sequence x(n)= {2,1,0,1,2} is applied to DSP system having an impulse sequence h(n) = { 5,3,2,1} Determine the output sequence produce by Linear convolution and verify the same through circular convolution.   **(12 M)**

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: DWM&BI   MARKS: 25

Q1: Using the Apriori Algorithm on the following data with minimum support=2 and minimum
   Confidence =70% find out frequent item sets and generate strong association rules.

   10

TID	List of item_IDs
T100	I1,I2,I5
T200	I2,I4
T300	I2,I3
T400	I1,I2,I4
T500	I1,I3
T600	I2,I3
T700	I1,I3
T800	I1,I2,I3,I5
T900	I1,I2,I3

Q2: What are the major issues in Data Mining?   5
Q3: Explain multilevel association rules   5
Q4: Explain Numerosity Reduction in Data preprocessing   5

FINAL YEAR

Saraswati College Of Engineering, Kharghar
Information Technology Department
Term Test

Sub: Artificial Intelligence   **Date: / 10 /2012**
Marks: 25   **Time: 1 Hr**

Note: Q. 1 is compulsory.

Q. 1   Jack owns a dog. Every dog owner is an animal lover. No animal lover kills an animal.
           All cats are animals. Either jack or Curosity killed the cat. The cat was named Tuna.
           Using resolution verify whether Curiosity killed the cat.   (10)

Q. 2   Explain various steps of Knowledge engineering process.

           Write brief notes on Ontological Engineering.   (10)

Q. 3   Write short notes on : Agent Commumnication OR Neural Network   (5)

SUB: DSP/IP   **MARKS: 25**

Q 1)a) Given an image of size(3*3),f(m,n)= [128   212 255, 54 62 124, 140 152 156]
Determine the output image g(m,n) using logarithmic transformation $g(m,n)=C$
$Log_{10}[1+f(m,n)]$ by choosing $C=L/Log_{10}[1+L]$ where L is the maximum pixel value
in the image**.**   **(6)**

b) Given an input image f of size(3*3) ,find the filtered image R using median filter
with filter mask as given below.Assume virtual rows &columns with repeated
border pixels. Show all calculation in nine steps**.**   **(6)**
f=[3 2 1, 5 2 6, 7 9 1]   output image R=[R_1 R_2 R_3 ,R_4 R_5 R_6, R_7 R_8 R_9]
Median filter mask

0	1	0
1	1	1
0	1	0

Q2) For the following given Binary image R of size(256*256),apply split and merge
technique and segment the image so that all the pixels in segmented image will
have same intensity value**.**   **(7)**

Q3) Find the arithmetic codeword of message : INDIA. Calculate the %of compression &
Bits per pixel of compressed message**.**   **(6)**

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: DWM&BI   MARKS: 25

Q1: Using given table create classification model using any algorithm and hence classify
following
tuple<income=medium,credit=good>   10

Transaction Id	Income	Credit	decision
T1	Very high	excellent	authorize
T2	high	good	authorize
T3	medium	excellent	authorize
T4	high	good	authorize
T5	Very high	good	authorize
T6	medium	excellent	authorize
T7	high	bad	Request id
T8	medium	bad	Request id
T9	high	bad	Reject
T10	low	bad	Call police

Q2: Explain the KDD process in detail with neat diagram   10
Q3 .Write short note on
   (Any One)   05
   (a)Explain Business Intelligence issues
   (b)Web structure mining

SUB: S&M   MARKS: 25

Note : Attempt any five.

1. Explain Verification and Validation process.
2. Explain concept of Network of Queue.
3. Explain activity scanning approach.
4. Derive the conservation equation and state the significance.
5. Explain event scheduling time advance algorithm.
6. Explain AR(1) time series model.

Define :- system, event, simulation , delay and model

SUB: STQA   **TIME:** 10:30 to 11:30   **MARKS:** 25

Note: Question no.1 is **compulsory** and Attempt any **3 Q**. from remaining 4Q.

Q1. (a)Explain the Boundary Value Analysis? And what are the basic guidelines for that?
   (b)Explain the concept of Defect Removal Efficiency?   (10M)
Q2. What are Zero-Day attacks? Discuss its significance with respect to security testing?
                                                                                (05 M)
Q3. Discuss the similarity b/w the Decision table –based and Category partition-based
    testing methodology?
                                                                                (05 M)
Q4. Show the relationship b/w Quality Factors & Quality Criteria?
                                                                  (05 M)
Q5. Short notes: (Any Two)   (05 M)
     (a)Test Automation Infrastructure.
     (b) Sandwich and Big-Bang Techniques.
     (C) Test case Design Effectiveness.
     (d) Beta testing

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

SUB: WN   **MARKS:** 25

Q1Write short notes on anyone.   (5M)
    a)   Blue tooth security
    b)   Table driven routing protocol
    c)   OFDM

Q2. Attempt any two   (20)
    a)   How packet routing is done in WN Adhoc n/w. Explain CGSR protocol.(10M)
    b)   Explain possible attacks on WLAN .Explain WEP in detail.   (10M)
    c)   Draw WATM architecture & specify physical layer requirement for WATM for
       low & high speed.

                                                                                       (10M)

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

FINAL YEAR

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: GAP   MARKS: 25

Note: Question no **one** is compulsory and solves any **two** from remaining questions

Q1.Explain basic principles of game design   05

Q2.what are the various phases in game development? State the process, people

    involved   and the outcome of each phase   10

Q3.What is token in game? Explain the tokenization matrix in pong game in details.   10

Q4.What are the core groups in software factory? State their interactions   10

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: ISMDR   MARKS: 25

(Q-1 is compulsory.solve any two from the remaining)

Q-1. The average I/O size of an application is 64KB.The specifications available are:Avg.

seek time=5ms,rotational speed=7200 rpm,transfer arte=40MB/s.Determine

maximum number of IOPs,that could be performed with the disk for this

application.(rotational delay is 0.5ms)   5M

Q-2. Explain the components of Intelligent Storage System.   10M

Q-3. Which are the core elements of data center infrastructure?

Explain the key requirements for data center elements.   10M

Q-4.Explain the components of storage system environment.   10M

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: ITFHC   MARKS: 25

(Q-1 is compulsory.solve any two from the remaining)

Q1.Explain with example how I.T can reduce cost of health care for a   (05)
    common man?

Q2.a)What online services can be provide for better healthcare for the citizen?   (05)

    b)The role of Ethics in IT Decision?   (05)

Q3.Write a short note on :   (10)

    1.EHR   2.planning Guardrails

Q4 .a) Define strategy Implementation process.   (05)

    b)The challenges for Consulting in 21 century   (05)

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: SPM   MARKS: 25

Note: Question no **one** is compulsory and solves any **two** from remaining questions

Q1. Describe – PMBOK   ------5mk

Q2. Describe the five phases of ITPM   -----10mk

Q3. Explain different Human side of project management organization and project teams.

--10mk

Q4. Explain project charter and project plan   ------10mk

SUB: Robotics &MI   MARKS: 25

Note: Question **one** is compulsory and solves any **two** from remaining questions

Q1)Define the following terms w.r.t. Robots:-

1) Repeatability   **(5)**
2) Precision
3) Accuracy
4) Degree of freedom
5) Tool Orientation

Q2) a) Draw joint & link diagram &define joint angle, joint distance, link length, link twist

angle .Which is the variable parameter for revolute & prismatic joint**.**   **(5)**

 b) How are robot classified**.**   **(5)**

Q3) Find the position of the tool tip of a SCARA Robot when the kinematics parameters

given are q= $[\frac{\pi}{4}, -\pi/3, 120, \pi/2]^T$ rads   d= [877, 0, d3, 200] ^{T} mm

a= [425, 375, 0, 0] ^{T} mm   **(10)**

Q4) Apply D-H   Algo   for 5 axis Rhino XR3. And construct a link –coordinate diagram.

Compute the arm Matrix**.**   **(10)**

TERM TEST 2

SWARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY.
Sub :- **FAM**

Note: Question no one is compulsory and solves any two from remaining questions.

Q1 : Explain S-curve model in technology improvement and state its limitation?   5 Mark
Q2: Explain three critical trajectories imparting the innovation process?   10 mark
Q3: Explain annual Report and international accounting?   10mark
Q4: Following is the trial balance of Ganesh Traders as on 31st March,2006:   10 mark

Debit Balances	Amt	Credit balances	Amt
Debtors	16000	Capital	42000
Bills Receivable	4800	Creditors	12000
Furniture	3000	Bills Payable	6400
Machinery	20000	Wages outstanding	500
Salaries	4000	Reserve for DoubtfulDebts	1000
Electricity	1200	Gross Profit	10,000
Rent	2000		
AdvertisementExpenses	1600		
Closing stock	3000		
Interest on Investment	12000		
Bank	4300		
	71,900		71,900

Prepare a profit and loss account for the year ending 31st march,2012 and a balance sheet as on that date with the following adjustments:

➢ Rent is prepaid for Rs 200.
➢ A provision for doubtful debts and provisions for discount on debtors on debtors are to be made both at 5% on sundry debtors.
➢ Depreciate machinery at 10%p.a. and furniture at 20%p.a.

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY
Term Test-2 (2013)

SUB: IP   MARKS: 25

Note: Question no **one** is compulsory and solves any **two** from remaining questions.

Q1.Write a note on:
   (i) Declaration Tag   (ii) Expression Tag   (iii) Scriptlet Tag   (iv)Action Tag   05

Q2. What do you mean by Session Management? Explain various ways of Session
   Management with example?   10

Q3. Explain DHTML? Write a DHTML program that changes the image based on Downward
   & Upward movement of mouse click?   10

Q4.Short Note (Any Two):   (a) Servlet Life Cycle.   (b) Built -in objects in ASP.
                          (c) XSL Elements.   (d) Web Services.
                          (e) JDBC API.   10

SARASWATI COLLEGE OF ENGG
INFORMATION TECHNOLOGY DEPT.

Subject:-MPMC   **UNIT TEST-II**   **Max Marks:-25**

Date:-10/4/2013   **Time:-1Hrs**

Note:-Question No 1 is compulsory & solve any two from remaining.

Q1) Explain the following instruction

     1) XLAT 2) MOVC A, @A+DPTR 3)ACALL address 4) CJNE @Ri,#data,rel
        5) SJMP 25

                                                                         (5)

Q2) Explain jump &CALL instruction of 8051 microcontroller with examples   **(10)**

Q3) Write short note on i) 8051 register Banks   ii) port structure of 8051   **(10)**

Q4) Write ALP for generating 100ms delay, assuming the system frequency to be

10 MHZ   **(10)**

Q5) Design 8086 microprocessor based system in minimum mode with following

specifications

     1) CPU with 8MHZ clock. 2)64 KB RAM using 16 KB devices. 3)32 KB EPROM using 8KB
        devices.   **(10)**

SUB: IP   MARKS: 25

Note: Question no **one** is compulsory and solves any **two** from remaining questions.

Q1. Write short note on pre emphasis and de emphasis   5

Q2. Explain the working of foster sealey discriminator in detail. Explain the advantages over balanced slope and disadvantages over ratio detector.   10

Q3. Explain delta modulation in detail.What are the drawbacks and how are they overcame by ADM?   10

Q4. Identify the wave EQ. & find carrier ,modulating frequencies ,modulation index & max. deviation of wave.   E=10 sin (6*10^8 t +5 sin 1250 t).what power will it dissipate in 20Ω resisto r? **AND** state the types of pulse modulation and digital transmission techniques .   10

FINAL YEAR

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: GAP   MARKS: 25

Note: Q1 is compulsory and solve any **two** questions from remaining

Q1.Explain the use of Chroma Keys   05
Q2. What are the three stages of running a game? Explain it in details   10
Q3.Describe the 3D graphics pipeline in details and explain various I /p to the
   pipeline and operations on it by graphics pipeline   10
Q4.Explain different game design patterns used in game development   10

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: ISMDR   MARKS: 25

(Q-1 is compulsory.solve any two from the remaining)

Q-1. Explain how failure analysis is done at data center and how fault tolerance mechanisms

    are implemented.   5M

Q-2. Explain backup and restore process in detail.   10M

Q-3. Explain SCSI-3 client server model along with SCSI communication model   10M

Q-4.Explain remote replication technologies in brief.   10M

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: ITFHC   MARKS: 25

(Q-1 is compulsory.solve any two from the remaining)

Q1.write a note on JHHLS(Jewish home &hospital life care system)
Q2.a)How you cope-up with computer enhanced radiology ?   (05)
    b)system design goals in nursimg administration.   (05)
Q3.Write a short note on :   (10)
1.HIPPA   2.Six sigma
Q4 .a) benefits & Challenges in EHR.   (05)
    b)What is clinical Decision support systems   (05)

Subject:-Robotics &MI   **UNIT TEST-II**   **Max Marks:-25**

Date:-9/4/2013   **Time:-1Hrs**

Note:-Question No 1 is compulsory &solve any two from remaining.

Q1) Write any three points why IK is not unique.   (5)

Q2) Explain pick &place trajectory in detail.   (10)

Q3) Explain the principle &application of BDA for obtaining straight line motion
   using an example   (10)

Q4) Explain workspace analysis of SCARA Robot.   (10)

Q5) Compute all   the moment up to second order for the binary image of a chess
   board. Comments on result.   (10)

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: SPM   MARKS: 25

(Q-1 is compulsory. Solve any two from the remaining)

1. Explain formal and informal organization   ------5mrk
2. What is project risk management (RM)? What are the RM processes?   ----10mrk
3. Describe project procurement processes   --------10mrk
4. Why is effective and efficient communication vital to a project?   ------10mrk

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: S & M   MARKS: 25

Q1. What are the advantages and Disadvantages of Simulation.   (05 M)

Q2. Explain steps in simulation study.   (10 M)

Q3. Explain Poisson Process with its properties.   (05 M)

Q4. Calculate Waiting time, total time in system and Idle time of Server

   from given Data.   (05 M)

Interarrival Time	_	2	4	1	2	6
Service Time	2	1	3	2	1	4

SUB: STQA   **TIME:** 2:00 to 3:00   **MARKS:** 25

Note: Question no.1 is **compulsory** and Attempt any **3 Q**. from remaining 4Q.

Q1. Using Control flow testing give the idea of generating test input data

   for feasible path?   (10 M)

Q2. Explain the concept of Dynamic unit testing?   (05 M)

Q3.Discuss about the Static data flow testing?   (05 M)

Q4. Define the term S/w testing and explain the role of testing?   (05M)

Q5.Short notes:

   (a) Predicate coverage criteria.   (b)Mutation testing   (05M)

SARASWATI COLLEGE OF ENGINEERING, KHARGHAR
DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: Wireless Network   MARKS: 25

Note: Question no.1 is **compulsory** and Attempt any 2Q. from remaining 3Q.

Q1. In GSM network, there are some databases used for various purposes,

what are these databases? What are their functions?   (05 M)

Q2.With neat diagram explain cdma-one protocol architecture.   (10 M)

Q3.Describe GSM architecture. Describe different elements in this architecture.   (10 M)

Q4. What are the challenges of wireless n/w & explain how wireless

network has evolved.   (10 M)