

Saraswati Education Society's  
**Saraswati College of Engineering, Kharghar**  
**Information Technology Department**  
**Academic Year 2013-14(Odd Sem)**  
**Unit Test-1**

Class/Sem: Final Year / V

Subject: DWM & BI

Date: 26/08/2013

Duration: 1 Hrs.

Marks: 25

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**Note: Q.1 is compulsory and solve any 3 questions from remaining.**

Q.1]: Explain knowledge discovery from data (KDD) with diagram. [10M]

Q.2]: What are the major issues in Data Mining? [5M]

Q.3]: What is noise data? How to handle the noisy data [5M]

Q.4]: Explain the OLAP operations. [5M]

Q.5]: A database has four transitions. Let minimum support and [5M]

Find out frequent item sets and generate strong association rules

TID	List of item
T100	I1,I3,I4
T200	I2,I3,I5
T300	I1,I2,I3,I5
T400	I2,I5

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**Note: Q.1 is compulsory and solve any two from remaining.**

Q.1]: Classify the following DTsystem on linearity, time invariance, causality.

$$Y(n) = e^{X(n)} \quad [5M]$$

$$Y(n) = x^{(2n)}$$

Q.2]: A discrete time signal is given by  $x(n) = \{1, 1, 1, 1, 2\}$  sketch the following signal [10M]  
[1]  $X(n-2)$  [2]  $x(n+1)$  [3]  $x(n-1) \cdot \delta(n-1)$  [4]  $x(n) \cdot u(n-1)$  [5] even and odd samples

Q.3]: Given  $x(n) = n+1$  and  $N=8$  find  $X(K)$  using DIT-FFT algorithm [10M]

Q.4]: Compute the linear convolution using circular convolution of the given signal [10M]  
 $x(n) = \delta(n) + \delta(n-1) - \delta(n-2) - \delta(n-3)$  and  $h(n) = \delta(n) - \delta(n-2) + \delta(n-4)$

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Subject: Simulation & Modeling

Date: 27/08/2013

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Q.1]: Explain the steps involved in simulation study. [10M]

Q.2]: Calculate output statistics for queuing system for 10 arrivals. Compute average waiting time of customer, average total time in system and Average Idle time of server. [5M]

Arrival Time	0	7	10	11	12	17	23	26	33	37
Service Time	4	3	1	4	6	3	5	3	2	6

Q.3]: The random no.s are 3.24, 3.14,3.72,3.06,3.14,3.14,3.06,3.17,2.97,3.14,3.69,2.85,2.92,2.79,3.22  
Perform test of unifomty by using K-S method. [5M]

Q.4]: Explain Poisson Process. [5M]

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Subject: SQTA

Date: 27/08/2013

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**Note: Q.1 is compulsory and Attempt any 3 from remaining.**

Q.1]: What is Mutation testing? Perform Mutation testing with five mutants on given code? [10M]

```
{r = 1;  
For i=2 to 3 do  
If (a[i]>a[r]) r=i;  
Printf("Value of the rank is %d \n", r);  
Exit (0) ;}
```

Q.2]: Explain the concept of Dynamic unit testing? [5M]

Q.3]: Discuss about the data flow Anomaly? [5M]

Q.4]: Explain all the techniques used in system Integration? [5M]

Q.5]: Short notes: (a) Predicate coverage criteria. (b) Failure, Error, Fault and Defect. [5M]

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**Unit Test-1**

Class/Sem: Final Year/ V

Subject: AI

Date: 28/08/2013

Duration: 1 Hrs.

Marks: 25

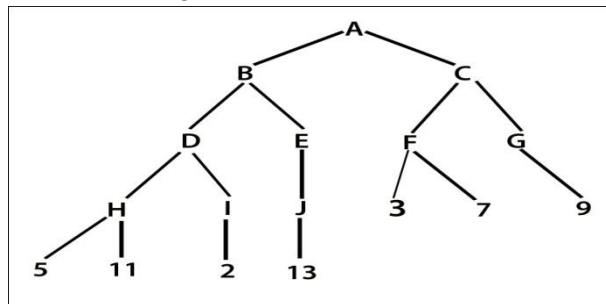
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**Note: Q.1 is compulsory. Answer any 3 out of rest.**

Q.1]: Write short notes on the following:

- [a] Applications of AI
- [b] Drawbacks of propositional logic
- [c] Simulated annealing
- [d] Issues in hill climbing technique

Q.2]: Perform  $\alpha$ - $\beta$  cut off on the following:



Q.3]: Represent status in First Order Logic:

- [a] There exists a smart student.
- [b] Bill takes either Analysis or Geometry (but not both).
- [c] Bill has no sister.
- [d] No student loves Bill.
- [e] Every student takes at least one course.

Q.4] Here are some maps of neighboring states. Assign colors to the states in each case. Try to find the *least* number of colors needed so that if two states share a border (part of a side, not just a corner), they have different colors.



Q.5]: Explain backward chaining with example.