Subject Code: MC911

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY::KAKINADA

MCA I Semester [R09] Regular Examinations, January 2010

ENGLISH LANGUAGE COMMUNICATION SKILLS

Time: 3 Hours **Max Marks: 60**

Answer any FIVE questions All questions carry EQUAL marks

I (a) correct the following sentences.

i. Neither of the sisters are good at singing.
ii. He ordered for three cups of coffee.
iii. Look at the flock of bees around the hive.
iv. Of all the children, Suma is closer to her father.

(b) Write two sentences each making use of these patterns

i. Subject + Verb + Complement

ii. Subject + Verb + I.O + D.O

(c) Fill in the blanks with the correct verb forms

i. Most snakes _____(lay) eggs, but the python _____(give) with to young ones.

ii. Rajiv_____(have) two children, who _____(go) to an English medium school.

iii. Swetha_____(has) played tennis for the last the two hours.

iv When the principal_____(go) into the classroom, he_____(see) the teacher correcting test papers. The students _____(study) for the next day's test.

II (a) Write about Non-Verbal communication.

(b) Bring out the differences between formal and informal ways of conversations.

III (a) Write the Synonyms of the following.

i. Concise

ii. Benign

iii. Adamant

iv. Tedious

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(b) Fill in the blanks with suitable words

i. Can you _____ how this electric pump works.

ii. Could you _____ the child's shoe laces please.

iii. They worry a lot _____ you.

iv The _____ in temperature will affect all life on the planet.

(c) Write a paragraph on "A stitch in times saves nine".

IV (a) Discuss the features of video conferencing.

(b) What are the expected qualities of a chair person?

V (a) Discuss the types of interviews.

(b) Give the ways to deal with open and loaded questions.

VI (a) Discuss the problem of stage fright. Suggest some measures to overcome it.

(b) Write down the advantages of written communication over oral communication.

VII (a) Write a letter to a Railway company, complaining that your furniture has been damaged in transit, and claiming damages.

(b) What are the advantages of e correspondence?

VIII Write short notes on

(a) Types of Report.

(b) Components of Report

Subject Code: MC115

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY::KAKINADA

MCA I Semester [R06] Supplementary Examinations, January 2010

DISCRETE STRUCTURES

Time: 3 Hours **Max Marks: 60**

Answer any FIVE questions All questions carry EQUAL marks

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1. a) Write the truth table for the following preposition.

$(p \vee q) \wedge (\sim p \vee q) \wedge (p \vee \sim q) \wedge (\sim p \vee \sim q)$

b) Show that the negation of $p \rightarrow q$ is logically equivalent to $p \wedge \sim q$

2. a) Obtain the principal of disjunctive and conjunctive normal forms of the following formula

$p \vee (\sim p \rightarrow (q \vee (\sim q \rightarrow r)))$

b) Express the statements with quantifiers and logical connectives " X can speak Marathi". "X knows the computer language C"

3. a) Prove that A relation R on A is symmetric if and only if $R=R^{-1}$

b) Draw the Hasse diagram for the partial ordering $\{(A,B): A \leq B\}$ on the power set P(S) where S= {a,b,c}

4. a) Let (S,*) be a semi group and (S^s, o) be a semi group where S^s is the set of all functions from S to S. Then, prove that there exists a homo morphism $\phi: S \rightarrow S^s$

b) Prove that a homomorphism ϕ from (G,*) onto (G′, o) with the kernel K is an isomorphism if and only if K={e}

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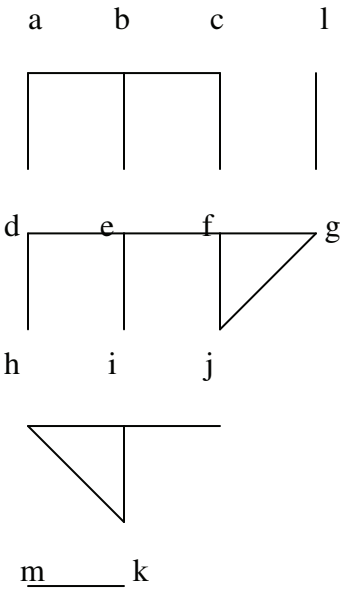
5. a) Two pair die are rolled. What is the probability that sum of the numbers on the die is Odd?

b) In how many ways can we select 5 balls from 6 red, 6 green and 8 purple?

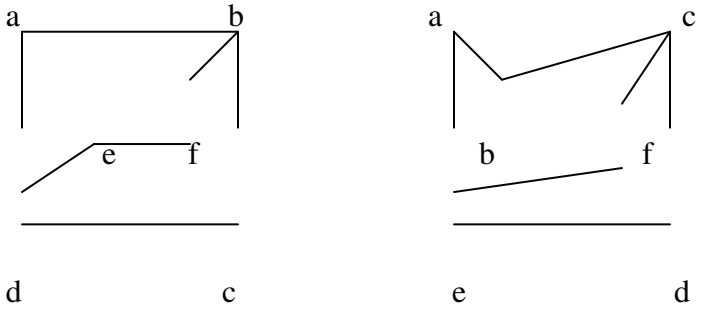
6. Solve the recurrence relation for the initial conditions

$a_n = -2na_{n-1} + 3n(n-1)a_{n-2}$, $a_0=1, a_1=2$

7. a) Use BFS to find a spanning tree for the graph



b) Determine whether the graphs G and G' are isomorphic.



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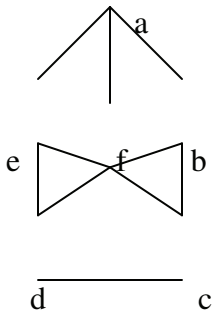
8. a) What is a chromatic number of a cycle and a tree? Find t he chromatic number of the “wheel “given below



b) Show that a connected graph is Eulerian if and only if it has no vertices of odd degree.

Subject Code: MC108

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY::KAKINADA

MCA I Semester [NR] Supplementary Examinations, January 2010

DISCRETE MATHEMATICS & GRAPH THEORY

Time: 3 Hours **Max Marks: 60**

Answer any FIVE questions All questions carry EQUAL marks

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1 a) Prove $(P \rightarrow Q) \Leftrightarrow (\sim P \vee Q)$

b) Translate each of the following into symbols using quantifiers, variables and predicate symbols.

i) All birds can fly

ii) Some babies are illogical

2 a) Prove that (A-B)-C= (A-C)-(B-C)

b) Let L denote the relation $\leq$, D denote the relation "divides" (1) where xDy means x divides y. Both L and D are defined on the set {1,2,3,6}.

Write L and D as sets and find $L \cap D$

3 a) A man has 5 female friends and his wife has 7 female friends. In how many ways can they invite 6 males and 6 females if husband and wife are to invite 6 friends each.

b) In how many ways can two A's are together but not two R's of the word "ARRANGE"

4. Solve the recurrence relation $T(k)-7T(k-1)+10T(k-2)=k^2+1$ and T(0)=4, T(1)=17.

5. a) Construct a graph on 12 vertices with 2 of them having degree 1,

three having degree 3 and the remaining seven having degree 10.

b) How many vertices does a regular graph of degree 4 with 10 edges have?

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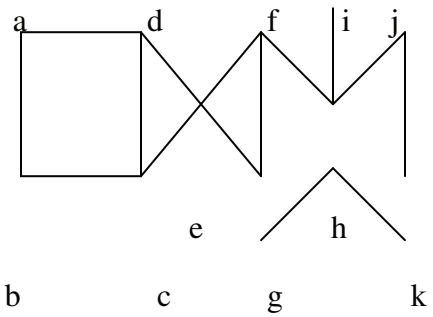
6 a) Show that if G is a simple planar graph with $|V| \geq 11$, then the complement of G is non planar.

b) Let G be a connected simple planar graph containing n vertices and m edges in which every region show that $m \leq k(n-2)/ k-2$.

7 a) Write briefly about binary trees.

b) Draw the BFS tree for the following graph.



8 a) Prove that every circuit has an even number of edges in common with any cut set.

b) Explain Prim's algorithm to find a minimum spanning tree with an example.