

B.E (IT) ~~8~~
Sem VII CBGS

10/12/2015

Wireless Tech,

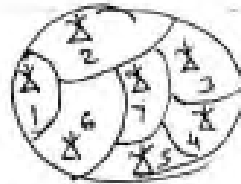
QP Code : 6030

(3 Hours)

[Total Marks : 80

- N.B. (1) Questions No. 1 is compulsory
(2) Solve any three from remaining questions.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary

1. (a) Consider a single high-power transmitter that can support 100 voice channels covering a given service area. Let the service area be divided into seven smaller area/cells. As shown in figure, each supported by lower power transmitters. The available spectrum of 100 voice channels is divided into 4 groups of 25 Channels each. The cells (1, 7) (2, 4) (3, 5) and 6 are assigned distinct channel groups. Show that the total number of channels that can be supported is enhanced to 175 to cover the same service area. 10



- (b) Explain in detail TDMA, CDMA and FDMA. 10
2. (a) Explain in detail the CDMA architecture. 10
(b) Explain in detail the IEEE 802-11 MAC Layer. 10
3. (a) Explain in detail LRWPAN. 10
(b) Compare CDMA 2000 & W-CDMA. 10
4. (a) Explain in detail Mobile IP. 10
(b) Explain possible attacks on wireless LAN and explain WEP in detail. 10
5. (a) Explain in detail Bluetooth architecture. 10
(b) Explain in detail GSM architecture
6. Write short note on any four. 20
(a) FHSS and DSSS
(b) OFDMA
(c) MMDS
(d) WLAN Architecture
(e) WiMAX

(3 Hours)

[Total Marks : 80

- N.B.** (1) Question **no. 1** is compulsory.
 (2) Attempt any **three** from remaining **five** questions.
 (3) Assume suitable data, if necessary.

1. (a) What is cloud? Explain its features, service and deployment models. 10
 (b) What is virtualization? What are benefits and mechanisms used for virtualization? 10
2. (a) What are the features of Amazon SimpleDB? 10
 (b) Explain Big Table as Google's NoSQL system in details 10
3. (a) Explain conceptual Architecture of Open Stack and its modes of operation. 10
 (b) What is CSB? Explain its role with example. 10
4. (a) What are public cloud adoption phases for SMBs? What are cloud vendor roles and responsibilities towards SMBs? 10
 (b) Explain AAA model in detail along with its industry implementation? 10
5. (a) What are the risks associated with cloud computing? 10
 (b) What are the fundamental requirements for cloud application architecture? 10
6. Write a note on 10
 1. Factors for successful cloud deployment
 2. Cloud Service Gateway
 3. Google App Engine
 4. SaaS maturity model

- N.B.:
- (1) Question 1 is compulsory
 - (2) Out of remaining attempt any three.
 - (3) Assume suitable data wherever required.
 - (4) Figures to right indicates full marks.

1. Solve any Four :
 - a) Define project management. 5
 - b) Explain the need of project management. 5
 - c) Explain Business Case. 5
 - d) Explain formal and informal organisation. 5
 - e) What is project? What are the attributes of a project? 5
2.
 - a) Explain four P's with respect to Project Management. 10
i) Product ii) People iii) Process iv) Project
 - b) Explain various project scheduling techniques. Explain the difference between CPM and PERT. 10
3.
 - a) Describe the five phases of IT project methodology. 10
 - b) Describe the five scope management processes. 10
4.
 - a) Explain project leadership and ethics. 10
 - b) List and explain the steps involved in terminating a project. 10
5.
 - a) What is project risk management? What are the RM processes? 10
 - b) Distinguish resource loading from resource levelling. Why is levelling of resources preferred to large fluctuations? 10
6. Explain with a brief answer : (any four) 20
 - a) What is a milestone? Why are they useful?
 - b) What is projectitis? How can an organization minimize its likelihood of its occurrence?
 - c) Explain the difference between-AON and PERT.
 - d) Why is effective and efficient communication vital to a project?
 - e) How can a system be a technical success but an organizational failure?

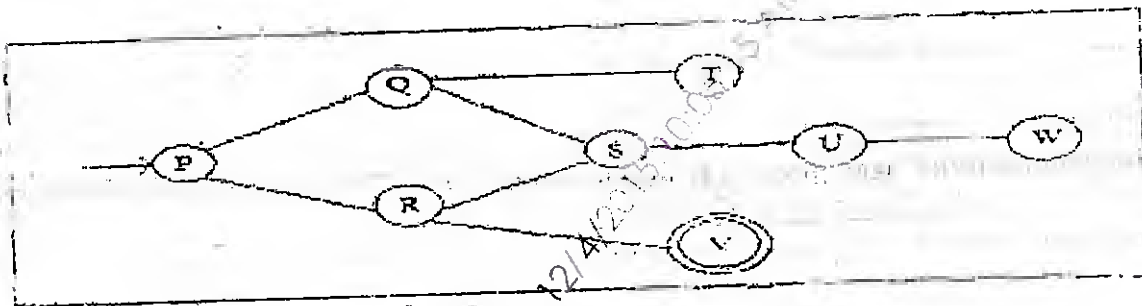
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(Revised Course)
(3 Hours)

[Total Marks : 80

N.B. : (1) Question No. 1 is compulsory.
(2) Attempt any Three of the remaining Five questions.

1. (a) What is AI? List down all components of AI. 3
(b) List down all properties of Agent Task Environment explain in short any one. 3
(d) What do you mean by heuristic function? Why it is use? 3
(e) What is Expert system shell explain in short. 3
(f) What is Reasoning? Write its role in AI in Short. 3
(h) Give the Comparative analysis of Uninformed Search techniques. 5
2. (a) Consider the following graph starting from P execute DFS, the goal node is V. Show the order in which the nodes are expanded. Assume that the alphabetically smaller node is expanded first to break ties and also write the properties of DFS. 10



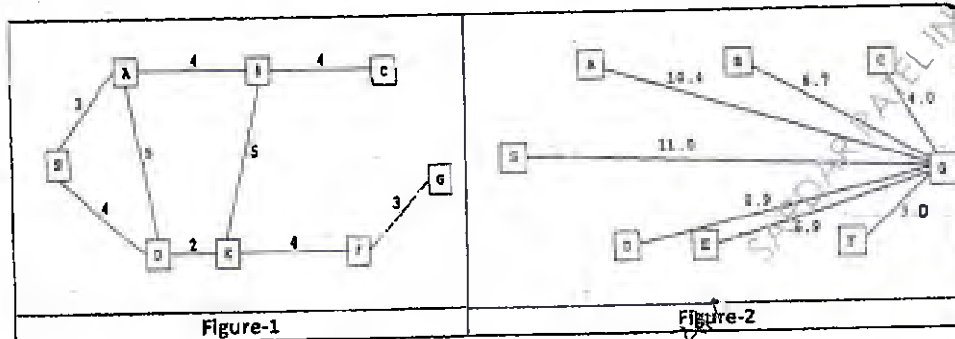
- (b) List down all the types of agent architecture. Explain utility based and learning agent. 10
3. (a) Suppose you are designing a machine to pass the Turing test. What are the capabilities such machine must have? Explain? 5
(b) Represent following sentences in first order logic. 10
(i) Every gardener like the sun.
(ii) All purple mushrooms are poisonous.
(iii) Every student who takes French passes it.
(iv) No person buys an expensive policy.
(c) Write the Planning algorithm for Spare Tyre Problem. 5

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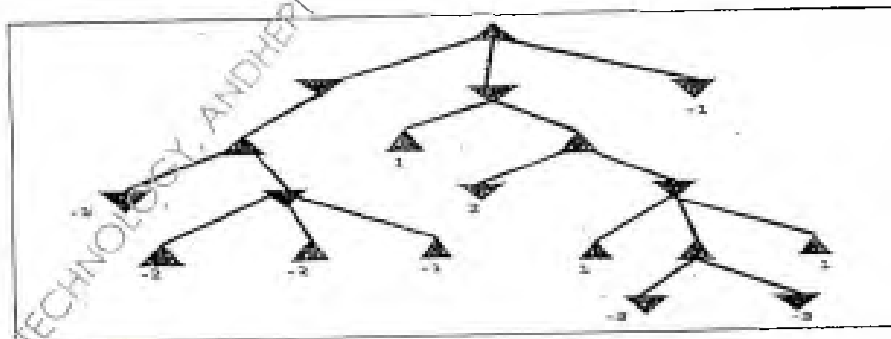
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Q.P. Code : 5960

4. (a) What is state space search? Formulate the state space search problems for 8-puzzle problem. 5
- (b) Draw and explain expert system architecture. Also give the differentiation between forward chaining and backward chaining. 10
- (c) Figure 1 is an example of a route finding problem. S is the starting state, G is the goal state. Run the greedy search algorithm for the graph given in Figure 1 and write order of the node in which it is explored. The straight line distance heuristic estimates for the nodes are shown in Figure 2. 5



5. (a) Given a full 5 gallon jug and an empty 2 gallon jug, the goal is to fill the 2 gallon jug with exactly one gallon of water. do the state space formulation and also discuss which strategy is appropriate for this problem. 5
- (b) Write down the agent task environment and its characteristics for the Crossword puzzle with justification. 5
- (c) Apply Min-Max algorithm and Min Max algorithm along with Alpha Beta pruning on given game tree then find which the next move is. (Note:- Δ : Max node and ∇ : Min node) 10



6. Write Short note on any Four.

- (a) Conditional Probability and Its role in AI.
- (b) Ontology.
- (c) Bayesian Network.
- (d) WUMPUS World environment.
- (e) Decision Tree.

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