

QP Code : 14786

(3 Hours)

[Total Marks : 80

- N.B. :** (1) Question No. 1 is **compulsory**.
 (2) Attempt any **three** from remaining **five** questions.
 (3) Draw the **relevant** diagram neatly.

1. (a) Which components constitute the disk service time? Which component contributes the largest percentage of the disk service time in a random I/O operation? 5
- (b) Explain Topologies for iSCSI connectivity. 5
- (c) Compare Storage Area Network and Network Attached Storage. 5
- (d) Write the names of the protocols those are transmitting Storage Data Traffic over TCP/IP? Explain. 5
2. (a) An application have 1000 IOPS and the read-write ratio is 3:7, Compute the IOPS required for RAID3, RAID5, RAID 1+0 and conclude which one is good configuration. 10
- (b) Explain how Copy-on-Write technology minimizes the impact of backup on application. 10
3. (a) Explain in detail about Disaster Recoverability as killer application. 10
- (b) Explain FC-AL and FC-SW. 10
4. (a) Define incremental and cumulative backup. Explain difference between them with respect to 10
- (b) Explain in detail about Object Storage and Retrieval is CAS. 10
5. (a) What is NAS? List the components of NAS? Explain various benefits of NAS. 10
- (b) Explain various benefits of storage virtualizations. 5
- (c) Explain various FC ports with neat diagram. 5
6. Write short note on (any two) :- 20
 - (a) Basic SAN Security Mechanism.
 - (b) Roll of Quality of I/O Performance Service in San Management.
 - (c) Off-Host NAS backup as backup killer application.

QP Code : **14780**

(3 Hours)

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- N. B. :** (1) Question No. 1 is **compulsory**.
(2) Attempt any **three** questions from remaining.
(3) Assume suitable data if necessary & state it clearly.

1. (a) List types of cybercriminals. 5
(b) What is cyberfraud? 5
(c) What is antiforensics? 5
(d) How to prevent being a victim of ID theft? 5
2. (a) What is cloud computing? Is it safe from cyberattacks, explain in details. 10
(b) How do you setup computer forensics laboratory? 10
3. (a) What are the strengths & limitations of Indian IT Act-2000 (ITA-2000)? 10
(b) How wireless mobile networks can compromise? 10
4. (a) What is endpoint security of organization? Why it is important? 10
(b) Differentiate between proxyserver and anonymizer. 10
5. (a) What is "social networking" site? What are the security threats that can emanate from social networking sites? 10
(b) What are the various phases and activities involved in the life cycle of forensics investigation process? Support your answer through various examples. 10
6. Write short notes on :-
 - (a) New amendments in Indian IT Act-2008 10
 - (b) Global cooperation against cybercrimes 10

ME (Comp) Sem II
- DMABT

CBGS

28/11/2014

QP Code :14783

(3 Hours)

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- N. B. : (1) Question No. 1 is compulsory.
(2) Attempt any **three** questions out of remaining **five** questions.
(3) Assume suitable data wherever necessary & justify the same.

1. (a) Discuss the difference between on ordinary and stochastic hill climber. 5
(b) Explain WPM with suitable example. 5
(c) Explain data preparation in prediction model. 5
(d) Explain the inference system of the fuzzy logic. 5
2. (a) Discuss any three parameter for evaluation of prediction model. 10
(b) Describe the steps in decision making process in detail 10
3. (a) Discuss the different types of ANN. 10
(b) Explain Ant colony optimization with suitable example. 10
4. (a) Explain the characteristics of complex business problem. 10
(b) Explain Tabu search with suitable example. 10
5. (a) Design the hybrid systemm for car distribution system. 10
(b) Find the most satisfied school using SAW and AHP method. The hievachy representation and pair wise comparison to select the most satisfied school is shown fig 1 & fig 2 respectively. You have 3 alternatives : School A, School B & School C. The criteria are
(1) learning (2) friends (3) School life (4) Vocational training (5) College prep.
(6) Music classes

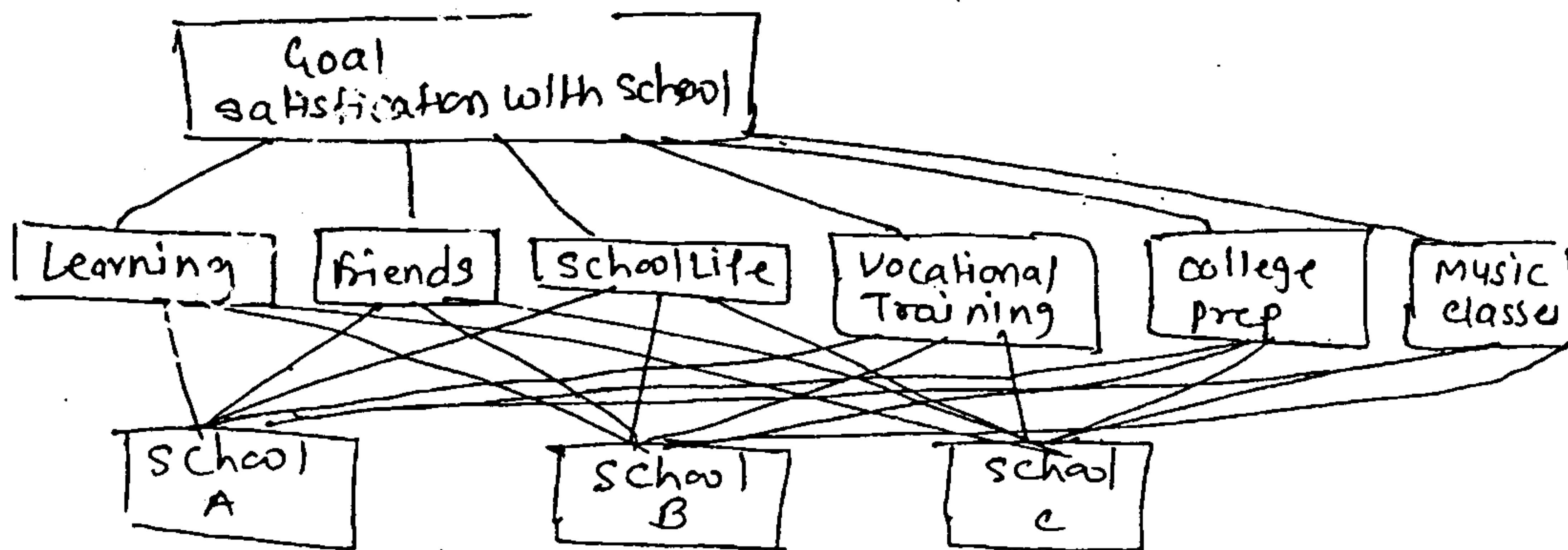


fig 1 : Hierarchy representation

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Pairwise comparisons for school selection :-

	L	F	SL	VT	CP	MC	Weight
Learning	1	4	3	1	3	4	32
Friends	1/4	1	7	3	1/5	1	14
SchoolLife	1/3	1/7	1	1/5	1/5	1/6	0.3
Vocational Training	1	1/3	5	1	1	1/3	13
College Prep.	1/3	5	5	1	1	3	24
Music Classes	1/4	1	6	3	1/3	1	14

Fig. 2

6. Write short notes on :-

20

- (a) Emergency Response Services
- (b) Constraint handling in optimization

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10/12/14

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QP Code : **14801**

(3Hours)

[Total Marks : 80

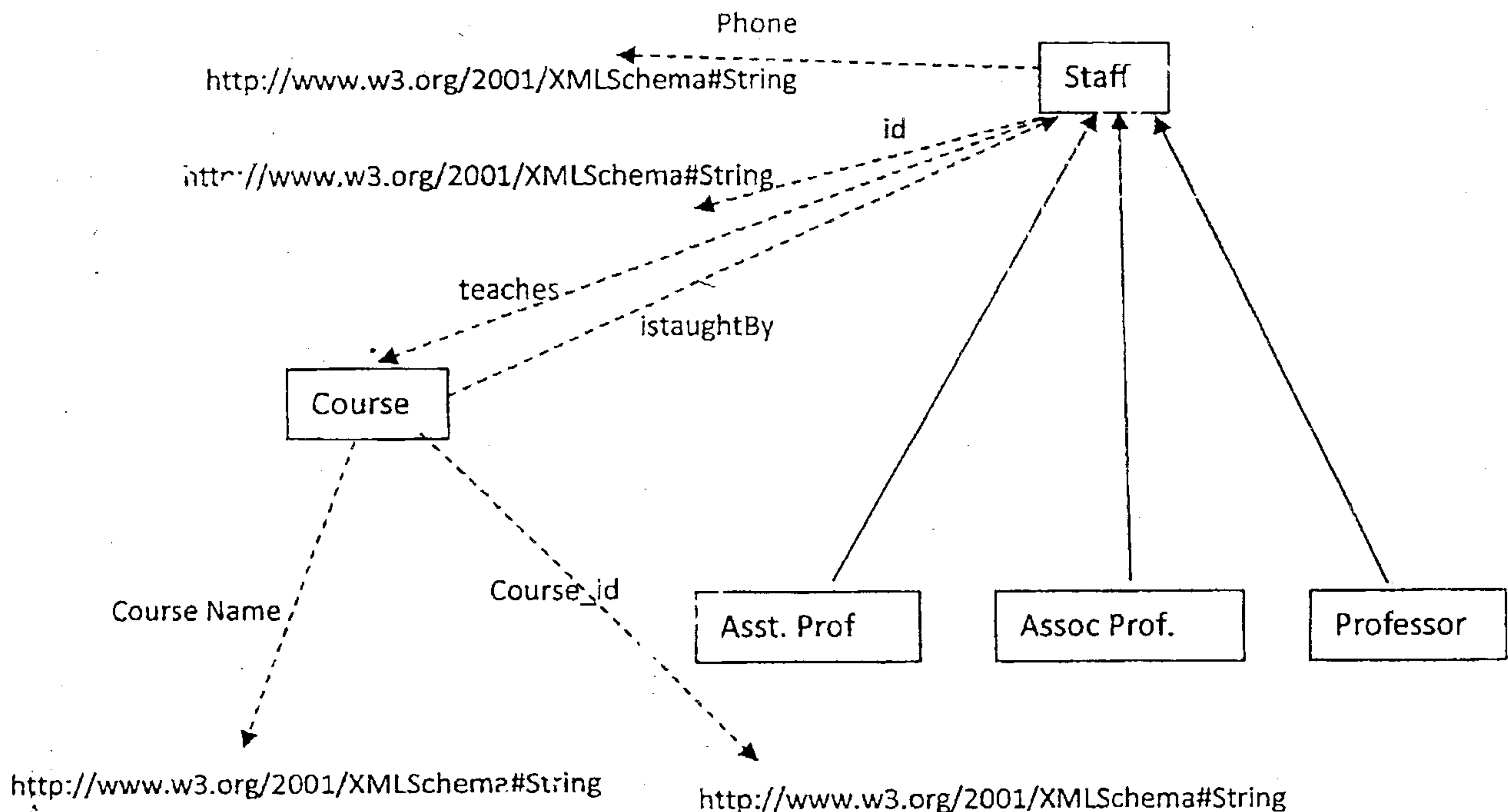
N. B. : (1) Attempt any Four questions
(2) Assume suitable data, if necessary.

1. (a) What are the different radio technologies using next generation wireless standard 10
(b) Explain Tiny DB for sensor network and compare the same with trickle for Wireless Sensor Network. 10
 2. (a) Explain the DCF access mechanism of IEEE 802.11 WLAN. What is the impact of size of contention window on its performance? 10
(b) Explain AODV protocol with its advantages and limitations. 10
 3. (a) Explain emerging GEO-protocols for vehicular networks. 10
(b) Explain SDR architecture and discuss how to overcome its limitations. 10
 4. (a) List and explain the characteristics for design of a new architecture for Opportunistic communication and delay-tolerant networking 10
(b) What is cognitive Radio Network? Explain with diagram. 10
 5. (a) Explain the functions of LTE PHY layer? 10
(b) Explain responsibilities of UMB MAC layer in brief. 10
 6. Write a note on : 20
 - (a) Virtual link layer of KioskNet
 - (b) Power saving option in UMB
 - (c) Security Challenges of future wireless internet
 - (d) UMB protocol stack
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BS-Con. 10822-14.

- N.B. : (1) Question No.1 is compulsory.
(2) Attempt any three questions from the remaining five questions.
(3) Assume suitable data wherever necessary.
(4) Figures in the right indicate full marks.

1. (a) Explain in detail ontology alignment process 10
(b) Write note on data driven ontology changes 10
2. (a) Give the OWL syntax for the following vocabulary. 12



- (b) Explain the concept of FOAF with an example. 8
3. (a) Write note Semantic web service ontology (SWSO) 10
(b) Explain different data grounding approaches 10

QP Code : 14795

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|----|-----|--|----|
| 4. | (a) | Define the following terms: Methodology, method, process, activity, task. What are the activities that need to be considered in an Ontology Engineering Methodology? | 10 |
| | (b) | Discuss a logical architecture to support the evolution of ontologies. | 10 |
| 5. | (a) | What is semantic annotation? Explain WSDL-S elements used for Semantic Annotation. | 10 |
| | (b) | Explain how search engine works in tradition web environment? Compare Semantic web search with tradition search process. | 10 |
| 6. | (a) | Explain the architecture and working of PION in detail. | 12 |
| | (b) | What is Usage-driven Hierarchical pruning? Explain with example. | 8 |
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10/12/14

QP Code : 14798

(3 Hours)

[Total Marks : 80

NOTE: 1) QUESTION NO. 1 IS COMPULSORY

2) ATTEMPT ANT THREE QUESTIONS FROM REMAINING.

3) ASSUME SUITABLE DATA IF NECESSARY.

Q1. DESIGN UBIQUITOUS SYSTEM FOR MODERN KITCHEN DEVELOPMENT. ASSUME NECESSARY SPECIFICATIONS AND DATA. [20]

Q2. A) EXPLAIN DEI MODEL IN DETAIL. [10]

B) DISCUSS UBICOM RESEARCH PROJECTS. [10]

Q3. A) EXPLAIN PARTIONING AND DISTRIBUTION. [10]

B) STATE DIFFERENT DIMENSIONS OF DEVICE MOIBILITY. [10]

Q4. A) EXPLAIN HUMAN CETERED DESIGN LIFE CYCLE. [10]

B) EXPLAIN RFID TAGS. [10]

Q5. A) STATE DIFFERENT ISSUES WHICH MAKES ADAPTIVITY IN CONTEXT DIFFICULT. [10]

B) WRITE SHORT NOTE ON INTELLIGENCE SYSTEMS. [10]

Q6. A) WHAT DO YOU MEAN BY UBIQUITOUS COMMUNICATION? [10]

B) WHAT ARETHE DIFFERENT CHALLENGES FACED BY UBIQUITOUS SYSTEM. [10]

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Computer
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10/12/14

QP Code : 14792

(3 Hours)

[Total Marks : 80

- N.B.** (1) Question No. 1 is **compulsory**.
(2) Solve any **three** questions from the **remaining** questions.
(3) **Figures** to the **right** indicate **full** marks.

1. Solve any **four** from the following :—

(a) Explain scalar replacement with aggregates along with example. 5

(b) Apply common sub expression elimination, Reassociation on the following code : 5

```
do k = m, n
  a = b + k
  c = a - k
  d = b + k
end do
```

(c) Use of DAG with reference to code generation. 5

(d) Comment whether the following grammar is LL(1) or not. 5

```
S → aAbB | bAaB | ε (epsilon)
A → S
B → S
```

(e) What is code hoisting. 5

2. (a) Write semantic actions, annotated parse tree and three address code for the following assignment 10

```
x = a[i][j] + b[i][j]
```

(b) Explain global register allocation algorithm. How graph coloring is applicable to it. 10

3. (a) What are the different issues in the design of a code generator. 10

(b) Explain global value numbering with example. 10

4. (a) How run time storage management is done using static allocation and stack allocation. 10

(b) Show that the following grammar is LR(1) but not LALR (1). 10

```
S → Aa | bAc | Bc | bBa
A → c
A → d
```

BB-Con. 10767-14.

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5. (a) Apply free transformations to simplify following addressing expression 10
 $a[i][j]$ is denoted by
 $\text{base}_a + (i - \text{lo1}) * (\text{hi2} - \text{lo2} + 1) + j - \text{lo2}) * w$
- (b) Consider the basic block given below 10

$$\begin{aligned} t_1 &= a + b \\ t_2 &= c * d \\ t_3 &= t_1 - t_2 \\ t_4 &= e / f \\ t_5 &= t_3 * e \\ t_6 &= t_5 * f \\ t_7 &= t_1 * t_4 \\ t_8 &= t_7 + t_6 \end{aligned}$$

Construct DAG.

Apply heuristic ordering (optimal) to it.

Apply code generation algorithm to generate the code.

Justify the optimal order of evaluation.

6. Explain the following code optimization techniques with suitable examples :— 20
- (a) loop simplification
 - (b) tail merging
 - (c) Branch prediction
 - (d) Copy propogation.
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