Sem-VII IT (CBGS) 24/11/2016

Software Project Management

Q.P. Code : 633600

(3 Hours) **[Total Marks : 80**

N.B. (1) Question No.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 [20]

a) What is PMBOK Knowledge areas

b) Define the following terms

(i) Project (ii). Critical path (iii). Earned value (iv). Scope creep (v). Scope leap.

c) Give the difference between product oriented deliverables and project oriented deliverables.

d) Explain the importance of feasibility study in IT projects.

e) What is a project Charter.

2 a) Explain the phases of project life cycle and compare it with SDLC. [10]

b) Explain Project Planning framework [10]

3 a) Explain project estimation techniques [10]

b) Explain in brief the objectives of procurement management. [10]

4 a) Draw AON diagram and find the activities on critical path. Calculate minimum overall project completion time. [10]

Activity	Description	Estimated Duration (Days)	Predecessor
A	Evaluate current technology platform	2	None
B	Define user requirement	5	A
C	Design webpage layout	4	B
D	Set up server	3	B
E	Estimate web traffic	1	B
F	Test Web pages and links	4	C,D
G	Move web pages to production environment	3	D,E
H	Write announcement	2	F,G
I	Train users	5	G
J	Write report to management	1	H,I

b) What is the cost benefit analysis in projects? List the steps for performing costs benefit analysis. [10]

TURN OVER

5 a) What is project team? Explain multidisciplinary and multicultural teams [10]

b) Explain in brief resource loading, resource allocation and resource levelling. [10]

6 a) What is the role of implementation plan? Explain in brief the contents of implementation plan of a project. [10]

b) What is meant by Communication Management? What are the strategies for an effective communication system. [10]

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I.T (CBGS)
C.C

1/12/2016

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Q.P. Code : 800302

(3 Hours) **Total Marks : 80**

Note : 1) Question **no 1** is compulsory, solve **any 3** questions from remaining 5 questions.
2) Assume Suitable data whenever necessary.
3) **Figures** in the **right** indicate **full marks.**

1. a) What is the need of virtualization? Define Server virtualization, Application virtualization, Presentation Virtualization. **10**
   b) Compare the REST and REST paradigms in the context of programmatic communication between applications deployed on different cloud providers, or between cloud applications and those deployed in-house. **10**

2. a) Explain conceptual representation of Eucalyptus cloud. Explain in brief the components within the Eucalyptus system. **10**
   b) What do you mean by Parallel and Distributed Programming Paradigms in detail? Explain about Hadoop Library from Apache in detail? **10**

3. a) What is Data Migration and which type of best practices should be used to protect data during a Migration. **10**
   b) Discuss with example how to write JOIN operation using Map Reduce model. **10**

4. a) How is Amazon DynamoDB different from MYSQL database? Explain with respect to database design principles. **5**
   b) Compare the following **10**
      i) Bare-Metal hypervisor, Hosted hypervisor
      ii) Grid Computing, Cloud Computing.
   c) What are 'security groups' & 'key pairs'? What is there significance in Amazon A WS cloud computing environment? **5**

5. a) How does cloud architecture overcome the difficulties faced by traditional architecture? **10**
   What are the three differences that separate out cloud architecture from the tradition one?
   b) Explain the two fundamental functions, identity management and access control, which are required for secure cloud computing. **10**

6. a) What is cloud computing? Enlist and explain three service models, and four deployment models of cloud computing. **10**
   b) Write short notes on **10**
   i) Authorization management in cloud computing
   ii) Challenges in, mobile at cloud shields.

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Q.P. Code : 790802

(3 Hours) **[Total Marks : 80**

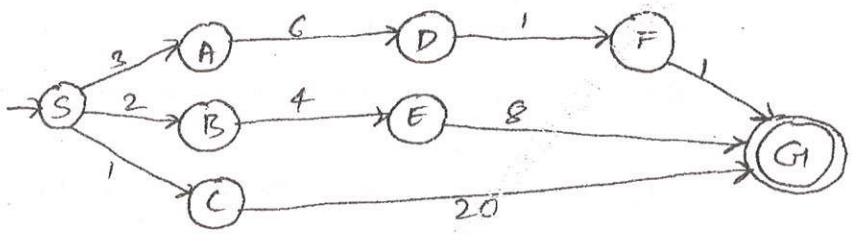
N.B. : (1) Question **No.1** is **compulsory.**
(2) Attempt **any three** out of remaining **five.**

1. (a) Solve the given puzzle using crypt arithmatic method. **5**

	B	A	S	E
+	B	A	L	L
G	A	M	E	S

5

(b) Apply uniform cost search Algorithm on given graph.



(c) Explain the limitation of propositional logic wth suitable example. **5**

(d) Write a note on Expert system shell. **5**

2. (a) Consider the examples. **10**
(i) If Triangle is equilateral then it is isosceles.
(ii) If Triangle is isosceles then two sides 'A' and 'B' are equal.
(iii) If 'AB' and 'AC' are equal then Angle 'B' and 'C' are equal.
(iv) ABC is an equilateral Triangle.
Prove that angle 'B' is equal to angle 'C' using inferencing techniques of modus ponen and Resolution.

(b) Give the comparative analysis of BFS, DFS, Iterative deeping and Bidirectional search strateges with respect to Time complexity, Space complexity, Optimatity and Completnes. **5**

(c) Explain model based Reflex Agent with block diagram. **5**

[TURN OVER

3. (a) Consider the knowledge base KB that contains the following propositional logic sentences.

$Q \Rightarrow P$

$P \Rightarrow \neg Q$

$Q \vee R$

(i) Construct a Truth table trat shows the truth value of each sentence in KB and indicate the model in which the KB is true.

(ii) Does KB entail R ? Use the definition of entailment to justify your answer.

(iii) Does KB $R \Rightarrow \neg P$ entail ? Extend the truth table and use the definition of entailment to justify your answer.

(iv) Does KB $Q \Rightarrow \neg R$ entail ? Extend truth table and use the definition of entailment to justify your answer.

(b) What is heuristic function ? How we can consider heuristic value in 8-puzzle problem explain?

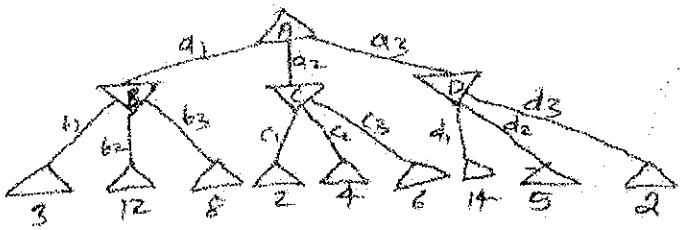
(c) Explain PEAS descriptor for Part picking robot and medical diagnosis system.

4. (a) You have two neighbours, John and Mary, who have promised to call you at work when they hear the alarm. John always calls when he hears the alarm, but sometimes confuses the telephone ringing with the alarm and calls then, too. Mary on the other hand, likes rather loud music and sometimes misses the alarm altogether. Given the evidence of who has or has not called, we would like to estimate the probability of a burglary.
Draw a Bayesian network for this domain with suitable probability tables.

(b) What is satisfiability ? Explain with suitable example.

(c) Draw and Explain the Export system Architecture.

5. (a) Consider the given Game Tree. Apply the Aplpha- Beta pruning algorithm and decide, what is to be the next best move ? (Δ - max node , ∇ - min node) 10



(b) Write prolog program for generating Fibonacci series. 5

(c) Write a note on conditional probability and its role in AI. 5

6. (a) Measures 3 and 4 liters of milk when jug of size 7 and 2 are available. 5

(b) Formulate state space search problem for vaccume world cleaner. 5

(c) What is Ontology ? Explain with real world example. 5

(d) What do you mean by Quantifier and its types? Explain with example. 5

B.E. Sem-VII
I.T (CBGS)
WT

15/12/2016

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QP CODE : 814502

3 Hours [80 marks]

Note : 1. Question number 1 is **compulsory.**
2. Solve any **three** questions out of the remaining **five** questions
3. Assume suitable data if necessary
4. Figure indicate marks

Q1 A. Assume a cellular system of 32 cells with a cell radius of 1.6 km, a total spectrum allocation that supports 336 traffic channels, and a reuse pattern of 7.calculate the total service area covered with this configuration , the number of channels per cell, and a total system capacity. Assume regular hexagonal topology. (10 marks)

B. Explain the main factors of change in economics of wireless technology. (10 marks)

Q2 A. Define piconet and scatternet. Explain Bluetooth protocol stack structure. (10 marks)
B. Explain WIMAX system and compare the different 802.16 standards. (10 marks)

Q3 B. Explain GPRS architecture and explain how authentication and encryption is provided in GSM (10 marks)

B. Explain 802.11 MAC management functions. Explain in detail Power Management function with a neat diagram. (10 marks)

Q4 A. Write short note on wireless sensor networks (05 marks)

B. Explain Hidden and exposed terminal problem with solution. (05 marks)

C. Why is the concept of Spread Spectrum important? Briefly explain FHSS and DSSS concept. (10 marks)

Q5 A. With a neat diagram explain Electromagnetic Spectrum. List the advantages and disadvantages of wireless technology. (10 marks)

B. Neatly explain the WLL Architecture. Explain the two local loop techniques with diagram. (10 marks)

Q6 Write short notes on (any 2): (20 marks)

a. VPN
b. Multiple Access Techniques
c. Handoff Strategies
d.. Mobile IP

BE · Sem-VII
I·T (CBGS)
E·P

21/12/2016

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Q.P. Code : 814601

(3 Hours) **[Total Marks : 80**

N.B. : (1) Question No 1 is compulsory.
(2) **Attempt** any **three** from remaining.
(3) ASSUME suitable data, if required.

1. Attempt the following :-

a) What do you mean by image file format? Explain any two frequently used image file formats? **4**

b) Explain any four properties of 2D D.F.T. **4**

c) Justify Lossy compression is not suitable for compressing executable files. **4**

d) What is m-connectivity amongst pixels. Explain with example. **4**

f) For the given 3-bit 4x4 size image perform **4**
(i) Intensity level slicing with background for r1 = 2
(ii) Negation

4	2	3	0
1	3	5	7
5	3	2	1
2	4	6	7

2. a) What is a histogram of a digital image? Given below is a Grey Level Histogram of a Image, Compute Histogram Equalization. Draw histogram of input & output Image. **10**

Grey Levels	0	1	2	3	4	5	6	7
No. of Pixels	790	1023	850	656	329	245	122	81

b) Explain the following frequency domain filters. **10**
(i) Ideal Low Pass filter. (ii) Butterworth High Pass filter.

3. a) Explain region Based & boundary Based segmentations. Explain the use of thresholding in both the cases. **10**

b) Consider the image given below. Calculate the direction of the edge at the centre point of the image. **10**

$$F = \begin{matrix} 50 & 60 & 70 \\ 5 & 50 & 80 \\ 7 & 9 & 50 \end{matrix}$$

[TURN OVER]

BE Sem-VII
I.T (CBGS)
E-commerce & E-Business

21/12/2016

(1)

Q.P. Code : 814801

(3 Hours) **[Total Marks : 80**

N.B. : (1) Question **No.1** is **compulsory**.
(2) Attempt **any three** from the **remaining**.
(3) Assume suitable **data**.

1. Develop a business plan for the Reliance 'Jio' based on the following guidelines. **20**
   (1) Identify the business model.
   (2) Develop the strategic plan based on Strategic Objectives, Strategic definition, Marketing plan, SCM and CRM plan.
   (3) Implementation should include few screenshots of websites demonstrating : Business model, Revenue model(s) used, CRM SCM activities, Marketing activities, Strategic objectives like mission, vision and objectives, Security concern, Payment mode.
   (4) One example of use-case scenario.
   (5) Site structure diagram (blueprint) showing layout and relationship between pages.
   (6) Organizational structure
   (7) Hardware and Software requirement.

2. (a) What is a fire wall? How does fire wall help in providing extended network security? **10**
   (b) Explain the difference between strategy and tactics. Explain five force model and importance of Value chain. **10**

3. (a) What are the issues involved in development of a business website. **10**
   (b) What are common electronic payment methods? Discuss them. **10**

4. (a) Explain difference between IT strategy and e-strategy? **5**
   (b) Explain the risks and benefits of applying RFID in the manufacturing sector. How can it be adopted in tracking parcels for the ecommerce sector. **5**
   (c) Discuss Technology & Infrastructure for E-Business. **5**
   (d) Explain Electronics Customer Support **5**

TURN OVER

5. (a) Suggest strategies for existing business to migrate to online business. 10
   (b) Using industry examples summarize benefits of ecommerce in streamlining supply chain. 10

6. (a) Describe the infomediary business model (e.g. practo, justdial, bharat matrimony) also elaborate on the interested parties willingness to pay in the three e.g. stated above. 10
   (b) What is customer life cycle? How do you use E-CRM in each of the stages of the Customer Life cycle. 10