Sem-VII
I.T (CBGS)
C.C

19/05/17

Q.P. Code : 800300

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

Note : 1) Question no. **1** is **compulsory.**
2) Attempt **any three** from remaining five questions.
3) Assume suitable data, if necessary.

1. a. What are advantages and limitations of Cloud Computing? **5**
   b. What are the levels used for virtualization? **5**
   c. Differentiate between cloud and traditional application Architecture? **5**
   d. What are the factors for successful cloud deployment? **5**

2. a. Explain different OPEN STACK cloud services with architecture **10**
   b. Explain the architecture and features of EBS. **10**

3. a. What is virtualization? Explain any one virtuaiization software architecture. **10**
   b. Explain cloud based service delivery and deployment models with example **10**

4. a. Explain different risks and mitigation techniques associated with cloud? **10**
   b. What are public cloud adoption phases for SMBs? What are cloud vendor roles and responsibilities towards SMBs? **10**

5. a. Explain challenges faced in cloud for data storage? **10**
   b. Explain AAA model in detail along with its industry implementation? **10**

6. Write a note on **20**
   1. CSB
   2. CSG
   3. GAE
   4. GFS

VII IT CBGS 15/5/17

SPM

Q.P. Code : 633601

(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]:

a) What is outsourcing? What are its advantages and disadvantages? [5]

b) Explain the need of project management. [5]

c) Give the difference between product oriented deliverables and project oriented deliverables. [5]

d) What is relation between MOV, Scope and WBS? [5]

e) What is project charter? [5]

2 a) Explain the following terms: [10]

i. Project
ii. Critical Path
iii. Earned Value
iv. Scope Creep
v. Scope Leap

b) Explain PMBOK Knowledge Areas. [10]

3. a) [10]

Activity	Predecessor	Duration
A	-	3
B	A(FS2)	2
C	A(SS)	2
D	B(SS1)	4
E	C(SF3)	1
F	C(FF3)	2
G	D(SS1), E	4
H	F(SF2), G	3

a) Draw Precedence Diagram.
b) Perform Forward and backward path calculations.
c) Find Critical Path.

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

TURN OVER

4 a) Discuss the statement: "Failing to define what not part of the project is just as important as failing to define what is part of the project. [10]

b) What is project team? Explain multidisciplinary and multicultural teams. [10]

5 a) Explain work breakdown structure with example. How does it map to the DDT and DSC. [10]

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

6 a) What is the role of implementation plan? Explain the various leadership styles. [10]

b) Choose a company that sells electronic products /services on the web. Using this website as a guide develop scope statement. (Make suitable assumptions). [10]

07/06/17

Sem VIII – I.T (CBGS)

Q.P. Code : 814800

(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

Q.P. Code : 814800

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**

Sem VII BE I.T (CBGS) 25/05/17

Q.P. Code : 790800

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

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

1. (a) Explain forward chaining. **4**
   (b) Explain steps in state space search formulation. **4**
   (c) Discuss Heuristic function using suitable example. **4**
   (d) Explain goal based agent with diagram. **4**
   (e) Explain in brief Expert System Shell. **4**

2. (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. **10**

   (b) Describe Hill climbing Algorithm. What are its limitations ? **10**

3. (a) Represent the following sentences in First Order Logic:- **10**
   (i) Every gardener likes the sun.
   (ii) You can fool some of the people all of the time.
   (iii) All purple mushrooms are poisonous.
   (iv) Every student who takes French passes it.
   (v) No person buys an expensive policy.

   (b) What is prolog ? Write Prolog program for generating Fibonacci series. **10**

4. (a) Compare and contrast BFS & DFS. And explain the search strategy developed to overcome the drawbacks of both. **10**
   (b) Explain Learning Agent with diagram. Also explain inductive learning. **10**

[TURN OVER

Q.P. Code : 790800

5. (a) Explain WUMPUS world with diagram. State PEAS descriptors for it. **10**
   (b) Explain Min max and Alpha beta pruning algorithms for adversarial search with example. **10**

6. Write short notes on (**Any Four**) **20**
   (a) Game Playing
   (b) A* algorithm
   (c) Partial Order planning
   (d) Supervised and unsupervised learning
   (e) Predicate Logic.

07/06/17

Sem VIII I.T (CBGS)

Q.P. Code : 814602

(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. Justify/contradict with reason. **(Any four)** :- **20**
a) Lossy compression cannot be used for executable files.
b) Every image has unique histogram.
c) Unit step sequence is power signal.
d) Extreme contrast stretching is thresholding.
e) Laplacian is not a good edge detector.

2. a) Explain Homomorphic filtering ? **10**
b) Explain fundamental steps in image processing. **10**

3. a) Explain in detail image enhancement in spatial domain. **10**
b) Explain the following frequency domain filters. **10**
(i) Ideal Low Pass filter. (ii) Butterworth High Pass filter.

4. a) Explain in detail region based segmentation. **10**
b) Perform Histogram Equalization for the data given below and draw the Histogram for input and output image **10**

Gray level	0	1	2	3	4	5	6	7
Frequency	123	78	281	417	639	1054	816	688

5. a) List and explain applications of IP. **10**
b) What is Morphology? Explain basic morphological functions in detail. **10**

6. a) Give Huffman code for the following symbols **10**

Symbol	0	1	2	3	4	5	6	7
Probability :	0.05	0.008	0.002	0.06	0.18	0.13	0.07	0.48

b) What is hough transform? Explain in detail. **10**

Rev

1/6/17

Q.P. Code :11991

[Time: 3 Hours] **[Marks:100]**

Please check whether you have got the right question paper.

N.B:
1. Question No.1 is compulsory
2. Out of remaining 6 questions attempt any 4 questions.
3. Assume suitable data wherever required.
4. Figures to the right indicate full marks.

Q.1
a) Discuss the advantages and disadvantages of simulation. **05**
b) What are the characteristics of Queuing system? **05**
c) Define Model. Describe types of model with example. **05**
d) Consider the following sequence of Five Numbers. **05**
[0.15, 0.94, 0.05, 0.51, 0.29] Use K-S test to determine
Whether Hypothesis of uniformity can be rejected.
Give $\alpha = 0.05$ and critical value $D\alpha = 0.565$.

Q.2
a) Explain Event scheduling Time advance algorithm. **10**

b) Describe useful Statistical models employing discrete and continuous distribution. **10**

Q.3
a) State properties of Random Numbers? What are the method used to generate random numbers? **10**

b) Explain steps in simulation study with Flowchart. **10**

Q.4
a) What is time-series input model? Explain AR (1) and EAR (1) model. **10**

b) Explain long run measures of performance of Queuing system. **10**

Q.5
a) Records pertaining to the monthly no. of job related injuries at an underground coal Mine were being studied by federal agency, the values for the past 100 months were as follows: **10**

Injuries per month	0	1	2	3	4	5	6
Frequency of occurrence	35	40	13	6	4	1	1

Apply the chi square goodness of fit test to these data to test the Hypothesis that the underlying distribution is Poisson
Use $\alpha = 0.05, \mathrm{X}\,\alpha, 0.05 = 5.99$

b) Explain verification and validation for simulation model. **10**

Q.6
a) Generate Random Variate using Inverse transform technique with exponential and uniform distribution. **10**

b) Test the following sequence of random numbers for independence by runs up and down test. **10**
Take $\alpha = 0.05$ and critical value $Z\alpha = 1.96$.
[0.12, 0.01, 0.23, 0.28, 0.89, 0.31, 0.64, 0.28, 0.33, 0.93]

[P.T.O]

Q.P. Code :11991

Q.7 Write short note on **any two**: **20**

a) Types of simulation with respect to output analysis
b) Issues in Material and manufacturing System
c) Cobweb model
d) Poisson Process

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QP CODE : 814500

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. A mobile communication system is allocated RF spectrum of 25 MHz and uses RF channel bandwidth of 25 KHz so that total number of 1000 voice channels can be supported in the system. [10]
   a) If the service area is divided into 20 cells with a frequency reuse factor of 4, compute the system capacity.
   b) The cell size is reduced to the extent that the service area is now covered with 100 cells. Compute the system while keeping the frequency reuse factor as 4.
   c) Consider the cell size is further reduced to that the service area is now covered with 700 cells with the frequency reuse factor of 7. Compute the system capacity.

B. Explain in detail EDGE Network Architecture with neat diagram. [10]

Q2. A. Explain in detail GPRS Architecture with neat diagram. [10]
B. Explain in detail CDMA Architecture with neat diagram. [10]

Q3. A. Give in detail comparison between WiMax and LTE/3GPP. [10]
B. Explain in detail Bluetooth Protocol Stack with neat diagram. [10]

Q4. A. Neatly explain the WLL Architecture. Explain the two local loop techniques with diagram [10]
B. Explain in detail GSM Privacy and Authentication with neat diagram. [10]

Q5. A. Explain the main factors of change in economics of wireless technology. [10]
B. Explain the Wired Equivalent Privacy Protocol. Also explain WEP security based on the access control list with neat diagram. [10]

Q6. Write short notes: [20]

a. Compare CDMA 2000 & W-CDMA
b. Mobile IP.
c. IEEE 802.11 standards.
d. Wireless Sensor Network.
