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BCA SEM IV

16-17

Question Papers



Roll No: _____

Total No: of Questions: 5

Total No: of pages: 2

B.C.A Semester End Examination**Software Engineering (BCA 401)****Semester IV**

Duration: 2 Hrs.

Maximum Marks: 50

Instructions:

1. Figure to the Right Indicates Full marks
2. Draw neat diagram wherever necessary with pencil
3. Write a Proper assumption for UML Diagram

Q1.A Select the appropriate option and rewrite the statement**(5*1=5)**

- i) Select the option that suits the Manifesto for Agile Software Development
 - a) Individuals and interactions
 - b) Working software
 - c) Customer collaboration
 - d) Responding to change
- ii) Spiral model was developed by
 - a) Victor Bisili
 - b) Berry Boehm
 - c) Bev Littlewoods
 - d) Roger Pressman
- iii) Which of the following is not a diagram studied in Requirement Analysis ?
 - a) Use Cases
 - b) Entity Relationship Diagram
 - c) State Transition Diagram
 - d) Activity Diagram
- iv) How many diagrams are here in Unified Modelling Language?
 - a) six
 - b) seven
 - c) eight
 - d) nine
- v) Which of the following describes "Is-a-Relationship" ?
 - a) Aggregation
 - b) Inheritance
 - c) Dependency
 - d) None of these

Q1.B Answer the following**(5*1)**

- i) Define UML
- ii) Differentiate between Extend and Include
- iii) Differentiate between Join and Fork
- iv) Who developed the Use cases
- v) MVC stands for

Q2 Answer the following**(10)**

A) Explain Software Quality .

(2)

B) Describe Characteristic of Software Process

(3)

X) Draw activity diagram for Flipkart the online Shopping portal

(5)**OR**

Y) Explain Agile Methodology .

(5)

Q3) Answer the following

- A) Write the Steps of Software Requirement Specification (SRS)
- B) Explain the Fact Finding Technique and Feasibility Study
- X) Draw a Sequence Diagram for Social media (Facebook)

OR

- Y) Draw a Class Diagram for Shaadi.com

Q4) Answer the Following

- A) Explain Project Scheduling
- B) Explain the features of UML

- X) Draw use case diagram for Blood Collection Center (Pathology)

OR

- Y) Explain Spiral Model

Q5) Answer the following

- A) Differentiate between Aggregation and Composition
- B) Explain the deployment and Component Diagram

- X) Draw and explain Collaboration Diagram for Restaurant Billing System

OR

- Y) Explain State Chart Diagram with an example

(10)

(2)

(3)

(5)

(5)

(10)

(2)

(3)

(5)

(5)

(10)

(2)

(3)

(5)

(5)



Roll No: -----

Total No. of Questions: 5

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BCA Semester End Examination

Computer Networks (BCA402)

Semester IV

Duration: 2 Hrs.

Maximum Marks:50

Instructions:

1. All Questions are compulsory
2. Figures to right indicate marks
3. Start each new question on a fresh page

Q1. A) Choose the Correct answer

(5 X 1 =5 Marks)

1. Bluetooth is an example of

a) Personal Area Network	b) Local Area Network
c) Virtual Private Network	d) Metropolitan Area Network
2. Which transmission media has the highest transmission speed in a network?

a) Coaxial Cable	b) Twisted Pair Cable
c) Optical Fiber	d) Electrical Cable
3. CRC stands for

a) Cyclic Redundancy Check	b) Code Repeat Check
c) Code Redundancy Check	d) Cyclic Repeat Check
4. The Network layer concerns with

a) bits	b) frames
c) packets	d) data
5. Which layer functions as connection between user support layers and network support layers?

a) Network Layer	b) Physical Layer
c) Transport Layer	d) Session Layer

(5 X 1 = 5 Marks)

B) Answer the following in one or two lines

1. List out the unguided media
2. Write any two functions of data link layer.
3. Define Subnets.
4. Define Socket address.
5. What is Symmetric Key?

Q2. Answer the following

10 Marks

- A) What is Hamming Distance and Give example
- B) Write short note on types topology
- X) Explain any five layers in OSI Reference Model

2 Marks

3 Marks

5 Marks

OR

Y) Describe Twisted Pair Cable

5 Marks

Q3. Answer the following

10 Marks

- A) What is parity give example
- B) Write short note on Character count
- X) Discuss Sliding Window Protocol in detail

2 Marks

3 Marks

5 Marks

OR

Y) Describe Synchronous Optical Network (SONET)

5 Marks

Q4. Answer the following

10 Marks

- A) Write any two functions of Network Layer
- B) Write short on Shortest Path Routing Algorithm
- X) Explain IEEE 802.3 Ethernet Standards

2 Marks

3 Marks

5 Marks

OR

Y) Discuss Transmission Control Protocol Segment in detail

5 Marks

Q5. Answer the following

10 Marks

- A) Write any six generic top-level domain names
- B) Write short note on User Datagram Protocol Services
- X) Describe Simple Mail Transfer Protocol

2 Marks

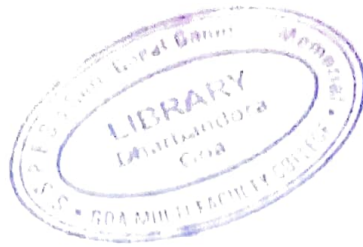
3 Marks

5 Marks

OR

Y) Explain Data Encryption Standard

5 Marks



3

Roll No:

Total No: of Questions: 05

Total No: of pages: 01

BCA Semester End Examination

**Management Function
Semester IV**

Duration: 02 Hrs.

Maximum Marks: 50 Marks

- Instructions:**
- 1) Question No. 1 and No. 2 answer any four Question.
 - 2) Answer any one Questions from Q.No.3 to Q.No.6.
 - 3) Figures to the right indicate maximum marks allotted.
 - 4) Provide sufficient margin space in the answer-book for recording marks.
 - 5) Enter the appropriate main & sub-question numbers in the answer-book.

Q1A) Answer the following questions in brief.

1. Limitation of Trait leadership theory.
2. Long term and short term planning.

(5 *2=10 marks)

OR

Q1V) Answer the following question in Brief.

1. Explain features of Decentralization of authority.
2. State the process of Control system.

(5 *2=10 marks)

Q2.B) Explain the meaning of Need Hierarchy theory of motivation and its stages. (10 marks)

OR

Q2W) Explain in details the different types of Communication Process. (10 marks)

Q3C) Explain the Importance of Planning. (10 marks)

OR

Q3X) Explain Decision making process in an organization. (10 marks)

Q4D) What is means by Centralization of Authority and its Features? (10 marks)

OR

Q4Y) Explain the process of Communication process and its barriers. (10 marks)

Q5E) Explain the Benefits and Limitation of Management by Objectives. (10 marks)

OR

Q5Z) What are the essential required for effective Control System? (10 marks)



Roll No:

Total No: of Questions: 5

Total No: of pages: 4

BCA Semester End Examination

Data Analysis and Statistical Technique

Semester No: IV

Duration: 2 Hrs.

Maximum Marks: 50

Instructions: 1) All Questions are Compulsory.

2) Figures to right indicate marks.

3) Start each new question on a fresh page.

4) On request graph will be provided.

5) Non programmable calculators are allowed.

Q.1 A) Answer the following:

(5x1=5)

i. $\bar{y} =$ _____

ii. Define probability distribution.

iii. Mean $E(X) =$ _____

iv. Second quartile is given by $Q_2 =$ _____

v. Binomial distribution is given by $P(x) =$ _____

B) Answer the following:

(5x1=5)

i. Define probability.

ii. For 2, 2, 3, 4, 4, 5, 5, 7, 9 the median is _____

iii. Coefficient of quartile deviation = _____

iv. Standard deviation (σ_x) = _____

v. Spearman's coefficient of correlation for repeated rank is given by $R =$ _____

Q.2. Answer the following:

A) i. Find the following bivariate data find,

a) coefficient of regression

b) coefficient of correlation.

x	2	1	3
y	5	7	3

ii. A perfect cubic die is thrown. Find the probability that :

a) an even number comes up.

b) a perfect square comes up.

c) an cube comes up.

d) an odd number comes up.

OR

B) i. Find the spearman's coefficient of correlation for the following

R ₁	2	1	4	3	4	6
R ₂	6	3	2	1	5	3

ii. A ticket is drawn from 15 tickets numbered from 1 to 15. What is the probability that the number on the ticket drawn is

a) even

b) odd

c) a multiple of 3

d) divisible by 4

Q.3. Answer the following:

A) i. Out of 36 students appearing for S.S.C. examination, from a school, only 19 passed.

Does this mean that the passing percentage from this school, in general is 60% at 1% level of significance?

- ii. Calculate the mean deviation of the following data which represent the heights of 7 soldiers : 168, 164, 172, 169, 178, 173, 173.

OR

- B) i.** Draw the histogram for the following data and hence find the mode graphically.

Monthly Income	500-1000	1000-1500	1500-2000	2000-2500	2500-3000
No. of persons	30	50	100	40	30

- ii. For a Poisson distribution with $\lambda = 3$, find $P(2)$, $P(x \leq 3)$, given $e^{-3} = 0.05$.

Q.4. Answer the following:

(10)

- A) i.** A box contains 5 black balls and 3 red balls. 2 balls are drawn at random.

Find the probability distribution of red balls drawn.

- ii. Calculate variance and standard deviation for the following

x	0	2	4	6	8
f	2	3	5	6	4

OR

- B) i.** Find n and p for a Binomial distribution If

(10)

a) Mean = 12, variance = 10.2

b) Mean = 6, s.d. = 2

- ii. A random sample of size 400 has sample proportion 0.75. Can we say that,

it is drawn from a population with proportion $P = 0.8$ at 5% level of

significance?

Q.5. Answer the following:

A) i. The probability density mass function of a random variable 'X' is given below

$$\begin{aligned} P(x) &= 1/6 \quad \text{when } x = 0, 1 \\ &= 1/8 \quad \text{when } x = 2 \\ &= 1/4 \quad \text{when } x = 3 \end{aligned}$$

Find : a) $E(X)$ b) $V(X)$
c) $P(X < 3)$

ii. Find coefficient of correlation for the following

x	3	2	3	4	1	2
y	4	4	5	3	8	6

OR

B) i. For a binomial distribution find mean and variance if

- a) $n = 10, \quad p = 2/5$
- b) $n = 12, \quad p = 1/3$

ii. Draw a histogram and frequency polygon from the following data

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No. of students	3	8	12	29	10	2



Roll No: _____

Total No. of Questions: 05

Total No. of pages: 02

BCA Semester End Examination
Technical Writing Skills (BCA 407)
Semester No: IV

Duration: 02 Hrs.

Maximum Marks: 50

- Instructions:**
1. Figures to the right indicate maximum marks.
 2. Provide sufficient margin space in the answer-book for recording marks.
 3. Enter the appropriate main & sub-question numbers in the answer-book

Q.1) Answer the following questions.

(5*2=10)

A) An employee in your office is careless in his work and behaves discourteously with other employees. Draft a memo to be given to him.

B) You are Naresh/Neena Kumar, the director of an electronics company, in Panaji requiring a driver cum office boy. Draft a suitable advertisement for the classified columns of a local daily.

Q.2 A) As the Librarian of the college, you have been asked by the Principal to suggest reorganization of the college library so as to make the maximum use of space and facilities available. Prepare the special report, recommending computerization of the library's catalogue and lending system.

(10*1=10)

OR

Q. 2 B) Three management trainees have been appointed to a committee to look into the problem of theft and pilferage from the factory premises. Write the special report of the committee.

(10*1=10)

Q.3 A) The result of SYBCA class has declined drastically since the last three years. Being the Head of Department you are asked to look into the matter and make recommendatory report. Draft a routine report.

(10*1=10)

OR

Q.3 B) You have attended a workshop on "Creative Writing". Draft a report focusing on different activities held during the workshop and importance of thinking creatively.

(10*1=10)

Q.4 A) You intends to apply for the post of a Manager in Grand Hyatt Bambolim Goa. Write an application letter along with bio-data. (10*1=10)

OR

Q.4 B) The Times of India has recently reported a number of deaths due to Malaria which is rampant in the state of Goa. Write a letter to the Editor of local daily giving suggestions to eradicate Malaria. You are Priyanka/Pranay Naik. Your address is Green Valley View, Colva Margao, Goa. (10*1=10)

Q.5 Answer **any two** of the following questions (5*2=10)

A) You are Renuka/ Rajendra Kharade, working as a special reporter for a local newspaper. Recently an exhibition of Arts, Crafts and Painting was held in the Town hall. Write a report of the exhibition for publication in the newspaper.

B) You placed an urgent order of office stationery and the supplier promised to deliver the goods in 24 hours. They have not been delivered even after two days. Draft a letter of complaint.

C) One of the employees in your firm has met with an accident. Write a letter to be sent to him.

D) One of your customers has been elected as the President of his professional association. Write a letter of congratulation.



Roll No: _____

Total No. of pages: 03

Total No. of Questions: 5

B.C.A Semester End Examination, 2017

Computer Networks (BCA402)

Semester: IV

Max. Marks: 50

Duration: 2 Hours

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate Full Marks.
3. Start each new question on a fresh page.

Q.1 A) Define the following terms:

(5x1=5)

1. Unguided Media.
2. Phase of a sine wave.
3. Cryptography.
4. Character Stuffing.
5. Multiplexing.

(5x1=5)

B) Answer the following :-

1. List any two units of frequency.
2. Write any 2 ports used with TCP.
3. What is the range of Radio Frequency?
4. What do you mean by Connection Oriented Service?
5. State any two Security goals.



- Q.2. A) Write a short note on fiber optics. (02)
- B) Explain the different types of encoding techniques. (03)
- C) Draw OSI reference Model and briefly explain the functionalities of Physical Layer (05)

OR

X) With the help of neat diagram, explain the components of Data Communication. (05)

- Q.3. A) Using Differential Manchester encoding, encode 01001100011. (02)
- B) List the different Data Framing techniques. Explain any one technique in detail. (03)
- C) For the generator polynomial $g = 1011$ and the data bits (message) $m = 1001$
Find the CRC and the transmitted string T also, show if the error is detected on the receiver's side. (05)

OR

Y) With the help of a neat flow diagram explain Stop and Wait Protocol. (05)

Q.4. A) Write a short note on Internetworking. (02)

B) Differentiate between Virtual Circuit Subnet and Datagram Subnet (03)

C) Differentiate between Static and Dynamic IP Addresses and Explain Class B and Class C IP Addresses (05)

OR

Z) What is Routing? How the different Routing Algorithms Classified? (05)

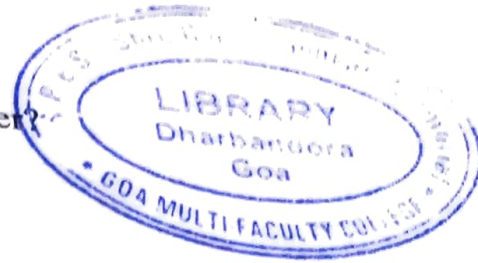
Q.5. A) What are the responsibilities of Transport Layer?

B) Describe TCP Connection Management.

C) Explain SMTP protocol.

OR

P) Write a short note on Domain Name System.



(02)

(03)

(05)

(05)

IV Semester Examination, APRIL 2017

Class: SYBCA

Sub: Software Engineering

Max marks: 50

Duration: 2 HOURS

- Instructions: 1) All questions are compulsory
2) Figures to the right indicate maximum marks
3) Start each new question on a fresh page.

Q1.A Fill in the Blanks

(5*1=5)

- a) RAD stand for _____
- b) Spiral model was developed by _____
- c) MVC stand for _____
- d) Agile means _____
- e) UML stand for _____

Q1B. Answer the following

(5*1=5)

- a) Define Software Engineering
- b) Define Software Quality
- c) What is Project estimation
- d) What is feasibility study
- e) What is software Re-engineering

Q2. Answer the following

(10)

- A) Explain Fact finding Techniques (2)
 - B) Explain Requirement Engineering Process (3)
 - X Draw Sequence Diagram For Naukari Job Portal (5)
- OR
- Y Draw Use case Diagram for Blood bank system (5)

Q3 Answer the following

(10)

- A Write down SRS Format (2)
 - B. Explain Motivation & challenges of Software Engineering (3)
 - X Draw Activity Diagram for College Admission (5)
- OR
- Y Draw Class Diagram for Social media

Q4 Answer the following

(5)

A Differentiate between Aggregation and Composition

(10)

(2)

B Explain Deployment Diagram

(3)

X Explain with an example State Chart Diagram

(5)

OR

Y Explain Agile Methodology

(5)

Q5 Answer the following

(10)

A. List the types Feasibility Study & Fact Finding Technique

(2)

B Explain Collaboration Diagram

(3)

X. Explain Classical Model of SDLC with diagram

(5)

(OR)

Y Explain Component Diagram

(5)