

3711

B. Tech. (Computer Science & Engineering)
8th Semester (G Scheme) Examination,
July-2022

QUALITY ENGINEERING

Paper-PEC-ME-410-G/OEG-ME-410-G

Time allowed : 3 hours [Maximum marks : 75]

Note : Question no.1 is compulsory and select one question from each section.

- (a) Explain T Q C.
- (b) Define objective of quality circle.
- (c) Differentiate variable and attributes data.
- (d) Quality system
- (e) TQM concepts
- (f) Discuss various form of Inspection $6 \times 2.5 = 15$

Section-A

Write short note on : 15

- (i) Quality Policy
- (ii) Quality function
- (iii) Quality characteristics

1-P-3-Q-9 (22)

[P. T. O.]

3. Draw basic structure of QC. Discuss about Launch and Training for quality circle. Also explain the procedure of operation of QC.

Section-B

4. A lot of 25 articles contains 3 defective. A sample of 5 is selected at random from the lot for inspection. What are the respective probabilities of 0, 1, 2 defective occurring in a sample of 5 ?
5. (i) Distinguish clearly between 'Mode', 'Median' and 'Arithmetic mean' as measure of central tendency.
(ii) What is the interpretation of three standard deviation limits ?

Section-C

6. Briefly explain the Quality system of India and ISO 9000.
7. Explain the need of Quality Assurance system in industry and also discuss the benefits of ISO 9000 series standard.

Section-D

8. Write short note on :

15

(i) TQM and Six Sigma

(ii) Six sigma and Indian industry

9. (i) Describe Kaizen system and fundamental of improvement for TQM.

(ii) Define JIT and characteristics of JIT management & its Goals.

15

3717

B.Tech. (Computer Science & Engineering)
8th Semester (G-Scheme)
Examination, July-2022
MACHINE LEARNING
Paper- PCC-CSE-402-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: Attempt five questions in all, selecting at least one question from each section. Question No.1 is compulsory. All questions carry equal marks.

1. Explain the following:

- (a) Learning
- (b) Co-variance of a Data Matrix
- (c) Reinforcement Learning
- (d) Linear Regression
- (e) Boosting
- (f) Median absolute deviation (MAD) $6 \times 2.5 = 15$

Section-A

2. Define Machine Learning. Explain with examples why machine learning is important. 15
3. (i) Differentiate between Supervised, Unsupervised and Reinforcement learning. Explain with suitable examples. 8
(ii) Discuss any five examples of machine learning applications. 7

3717-P-2-Q-9 (22)

[P. T. O.]

Section-B

4. Compare Feature Extraction and Feature Selection techniques. Explain how dimensionality can be reduced using subset selection procedure. 15
5. Use Principle component analysis (PCA) to arrive at the transformed matrix for the given matrix A. 15

$$A^T = \begin{bmatrix} 2 & 1 & 0 & -1 \\ 4 & 3 & 1 & 0.5 \end{bmatrix}$$

Section-C

6. What is the goal of the support vector machine (SVM)? How to compute the margin. 15
7. (a) Explain Naive Bayes Classifier with an Example. 10
- (b) Explain regression with an example. 5

Section-D

8. (a) Explain the k-Means Algorithm with an example. 10
- (b) Describe the random forest algorithm to improve classifier accuracy. 5
9. Explain the following:
- (i) Receiver Operating Characteristic Curve (ROC)
- (ii) Confusion Matrix 15

B.Tech. (Computer Science & Information Technology)

8th Semester (G-Scheme) Examination, July-2022

BIG DATA ANALYSIS

Paper- PCC-CSE-404-G / PCC-IT-403-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: Attempt five questions in all, selecting at least one question from each section. Question No.1 is compulsory. All questions carry equal marks.

1. Explain the following:

(a) Big Data

(b) Map Reduce

(c) YARN

(d) Data Mart

(e) ETL

(f) Six V in big data

6×2.5=15

Section-A

2. Define the different techniques in big data analytics. 15

3. Discuss the following in detail

(i) Conventional challenges in big data 8

(ii) Nature of Data. 7

Section-B

4. What is Big data platform? Describe the main features of a big data platform in detail.
5. Define HDFS. Describe name node, data node and block. Explain HDFS operations in detail.

Section-C

6. (i) Compare Traditional DBMS and Big Data Management Systems.
(ii) Describe any five real life applications of Big Data.
7. What is Real Time Analytics? Discuss the technologies in detail.

Section-D

8. (i) What is Hadoop? Explain its components.
(ii) How do you analyse the data in hadoop.
9. What is Real-Time Analytics? Discuss the technologies in detail.

3719

B.Tech (Computer Science & Engineering)

8th Semester (G-Scheme)

Examination, July-2022

Wireless Adhoc & Sensor Networks

Paper- OEC-ECE-430-G

Time allowed : 3 hours]

[Maximum marks : 75

Note : Question No. 1 is compulsory. and of short answer type each question carries equal mark. Attempt five question in total selecting at least one question from each section.

1. Briefly explain the following terms: $6 \times 2.5 = 15$
- (a) WSN
 - (b) Secure routing
 - (c) MANETs
 - (d) Link Layer
 - (e) Multicasting
 - (f) Berkeley Motes

Section-A

2. Discuss different routing algorithms of MANETs in detail. 15
3. Explain the following: $7.5 \times 2 = 15$
- (a) Applications of MANETs
 - (b) Challenges of MANETs.

[P. T. O.]

3719-P-2-Q-9 (22)

Section-B

- 4. Write down different solutions for TCP Over Ad hoc network in detail.
- 5. Explain the following: 7.5×2=15
 - (a) Transmission control protocol
 - (b) Broadcast storm problem

Section-C

- 6. Explain the architecture of wireless sensor network in detail.
- 7. Explain the following layers of WSN: 5×3=15
 - (a) Physical Layer
 - (b) MAC Layer
 - (c) Link Layer

Section-D

- 8. Explain the following: 7.5×2=15
 - (a) Intrusion Detection System
 - (b) Sensor Networks & mobile robots.
- 9. Explain the followings: 7.5×2=15
 - (a) Cooperation in MANETs.
 - (b) Sensor Network tools.