Roll No. ....

3711

B. Tech. 8th Semester (Computer Science & Engg.) Examination – May, 2023

QUALITY ENGINEERING

Paper : PEC-ME-410-G

Time : Three hours]   [Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

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

1. (a) Explain Quality Traits.

   (b) Elements of TQC.

   (c) Discuss Poisson Distribution.

   (d) Discuss Industrial Inspection.

   (e) Explain TQM philosophies.

   (f) Discuss about importance of quality in industry.

$2.5 \times 6 = 15$

P. T. O.

3711-1600(P-3)(Q-9)(23)

SECTION – A

2. Define and explain the objectives of quality control. 15

3. Explain in brief : 15

   (a) Role of feedback in quality control

   (b) Quality function

SECTION – B

4. Compute the average and the standard deviation of the following distribution which shows the result of distribution of resistance of 500 unit of electrical product : 15

Resistance Ohms	Frequency
2.7 – 2.9	02
3.0 – 3.2	16
3.3 – 3.5	46
3.6 – 3.8	88
3.9 – 4.1	138
4.2 – 4.4	113
4.5 – 4.7	71
4.8 – 5.0	22
5.1 – 5.3	04

5. Explain how you will find out the probability of obtaining x defectives in a sample of n items by using Hypergeometric distribution. 15

SECTION – C

6. Describe briefly the ISO : 9000 series standard in general.   15

7. Describe the various steps necessary for obtaining ISO : 9000 standard registration.   15

SECTION – D

8. Give various definition of TQM and explain Juran's ten steps to quality improvement.   15

9. Discuss and explain the concept of Parameter Design and Robust Design according to Taguchi philosophy.   15

_____

3717

B. Tech. 8th Semester

(Computer Science & Engg.)

Examination – May, 2023

MACHINE TEARNING

Paper : PCC-CSE-402-G

Time : Three Hours]　　　　　[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

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

1. Write short notes on :　　　　　　2.5 × 6 = 15

(a) Support vectors.

(b) Median Absolute Deviation.

P. T. O.

(c) FI-score.

(d) K-NN is called Lazy Learner. Explain it.

(e) Underfitting.

(f) Logistic Regression.

UNIT – I

2. What is Machine Learning ? Explain its importance and applications in the modern world.   15

3. Discuss different types of Machine Learning techniques with suitable example.   15

UNIT – II

4. (a) What is Dimensionality reduction ? How does the curse of dimensionality affects Machine Learning Models.   8

    (b) Write advantages and disadvantages of Dimensionality Reduction.   7

5. What is PCA ? Write down steps of a PCA algorithm with example.   15

UNIT – III

6. Explain Decision Trees algorithm in ML & discuss it's important attributes needed to construct it.   15

7. What are the basic assumptions used in Naive Bayes classifier ? Explain working principle of Naive Bayes algorithm with example. 15

UNIT – IV

8. Differentiate between Bagging and Boosting techniques. Explain *one* example (algorithm) that use Bagging technique. 15

9. Write short note on :

(a) Confusion Matrix 7

(b) ROC and AUC 8

———————

3718

B. Tech. 8th Semester (Computer Science & Information Technology) Examination – May, 2023

BIG DATA ANALYSIS

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

Time : Three Hours]   [Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

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

1. Write short note on the following :   2.5 × 6 = 15

   (i)   Data Sciences

   (ii) ELT

   (iii) Sources of data using service bindings

   (iv) Data ingestion

   (v)   MongoDB

   (vi) DFS

P. T. O.

UNIT – I

2. (a) What is Big Data ? Explain various characteristics, challenges and applications of Big Data.

   (b) What is HDFS ? Explain its components.

3. (a) Explain six V's of Big Data in detail.

   (b) Write short note on foundation for big data systems and programming.

UNIT – II

4. (a) Define Data Mart ? Explain different types of data marts with example. Also advantages and disadvantages of data marts.

   (b) Explain RDMS features and architecture in detail.

5. (a) What is NoSQL Explain different types of NoSQL databases with example ? Differentiate SQL and NoSQL with example.

   (b) Write short note on different types of file format used in big data.

UNIT – III

6. What is Modeling ? Explain various type of data models with example.

7. (a) Explain different types of big data management techniques.

   (b) Write short note on real life applications of big data.

UNIT – IV

8. (a) What is Hive ? Explain Hive features. Hive integration and workflow and architecture in detail. 10

   (b) Write short note on Hive Query Language (HQL). 5

9. (a) Write short note on Pig architecture and commands. 8

   (b) Explain MapReduce working ? WAP for Word Count using MapReduce. 7

_____

3719

B. Tech. 8th Semester
(Computer Science & Engg.)
Examination – May, 2023

WIRELESS ADHOC & SENSOR NETWORKS

Paper : OEC-ECE-430-G

Time : Three Hours]　　　　　　　　　　[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

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

1. Briefly explain the following terms : 　　　6 × 2.5 = 15

 (a) MANET

 (b) Geocasting

 (c) Key Management

 (d) TinyOS

3719-*1350* -(P-3)(Q-9)(23)　　　　　　　　P. T. O.

(e) Routing Layer

(f) Sensors

SECTION – A

2. Discuss the characteristics & applications of MANET in detail.

        15

3. Explain the following protocols in detail : $2 \times 7.5 = 15$

    (a) Reactive Routing Protocol

    (b) Proactive Routing Protocol

SECTION – B

4. Explain :

    (a) Broad cast storm problem   7

    (b) Transmission control protocol   8

5. Discuss different solutions for TCP over Adhoc network in detail.   15

SECTION – C

6. Discuss the classification of wireless sensor networks and its applications in detail.   15

7. Explain the physical and MAC layer of Wireless sensor network in detail. 15

SECTION – D

8. Explain the following : 2 × 7.5 = 15

   (a) Dynamic nature of WSNs.

   (b) Secure routing in WSNs.

9. Explain the following : 2 × 7.5 = 15

   (a) Intrusion Detection System

   (b) Network Simulator

   _____