Total No. of Printed Pages:02

SUBJECT CODE NO:- E-414
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE) Examination Nov/Dec 2017
Digital Image Processing
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Question No.1 and Question No.6 are compulsory.
ii. Attempt any two questions from the remaining question from each section.
iii. Assume suitable data if necessary.

Section A

Q.1 Answer the following.(any five) 10
a) What is image transform?
b) Define first order gradient derivative operator.
c) Define entropy of an image.
d) What is image restoration?
e) What is image compression?
f) Define DCT and its inverse.
g) What is digital image?
h) Give the mask used for high-boost filtering.

Q.2
a) With the neat diagram, explain the fundamental steps involved in digital image processing. 08
b) Explain histogram equalization with example. 07

Q.3
a) Explain image compression model with neat diagram. 08
b) What is connectivity in digital image processing? Explain different types of connectivity. 07

Q.4
a) Explain contrast stretching & bit plane slicing. 08
b) Explain in brief about noise models with their principles of working. 07

Q.5 Write short notes on 15
a) Spatial domain filters.
b) Run length coding.
c) MSE & PSWR

Section B

Q.6 Answer the following (any five) 10

a) What is an edge?
b) What are the major effects in the erosion process?
c) Define gradient operator.
d) Define chain code.
e) What is boundary descriptor?
f) Write applications of Segmentation.
g) What is hue and saturation?
h) How a point can be detected?

Q.7
a) Describe seeded region growing Segmentation technique in detail. 08
b) Discuss edge detection process in image segmentation. 07

Q.8
a) Elaborate the morphological algorithm for thinning in detail along with boundary extraction algorithm. 08
b) Explain RGB and HSI color models in brief. 07

Q.9
a) Explain simple boundary and region descriptors. 08
b) What is image texture? What are different approaches to describe texture? 07

Q.10 Write short notes on 15

a) Boundary representation techniques.
b) Color transformations.
c) Applications of image segmentation.

Total No. of Printed Pages:02

SUBJECT CODE NO: E-08
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE/ IT) Examination Nov/Dec 2017
Advanced JAVA
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
1) Question No. 1 and 6 are compulsory.
2) Attempt any two questions from each section.
3) Figures right indicates full marks.
4) Assume Suitable data if necessary.

Section A

Q.1 Attempt any five questions: 10

a) What is servlet context?
b) What is AJAX?
c) What is JSP?
d) Enlist the stages in JSP lifecycle.
e) What is skeleton in RMI?
f) Enlist page directives.
g) Define deployment descriptor.
h) What is XML?

Q.2 a) What is container? Explain J2EE container with container architecture. 08

b) Explain JSP page directives in detail. 07

Q.3 a) Differentiate between servlet & CGI script. 07

b) Explain JSP lifecycle? Explain how to create custom tags. 08

Q.4 a) Explain four methods of session tracking with suitable example. 07

b) Write a short note on JSP exception handling with suitable example. 08

Q.5 a) Explain steps to create RMI in java with suitable example. 08

b) Explain JSP Model – I & Model – II architecture in detail. 07

Section B

Q.6 Attempt any five questions: 10

a) Enlist types of web service technologies.
b) Explain advantages are of hibernate.
c) What is entity bean?
d) Differentiate between SMTP & POP3.
e) Enlist components of struts.
f) Differentiate between Struts 1 & Struts 2
g) What is use of UDDI?
h) Define session bean.

Q.7 a) Explain hibernate relational mapping. 07

b) Explain enterprise bean architecture. 08

Q.8 a) Explain publication & discovery with UDDI. 08

b) Explain JSF architecture in detail, 07

Q.9 a) Explain HQL in detail. 07

b) Explain java API for xml binding. 08

Q.10 a) Explain components of JSF in detail. 08

b) Explain components of struts based application. 07

Total No. of Printed Pages:02

SUBJECT CODE NO:- E-31
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE/IT) Examination Nov/Dec 2017
Design & Analysis of Algorithms
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B i) Q.1. & Q. 6 are compulsory.
ii) Solve any two Questions from the remaining each section.

Section A

Q.1 Solve any five questions: 10

a) Write characteristics of an algorithm.

b) How is algorithm time efficiency measured?

c) Define feasible and optimal solution.

d) Define asymptotic notation.

e) Explain space complexity

f) Write any two characteristics of greedy algorithm.

Q.2 a) Explain binary search method using divide & conquer technique. 08

b) Explain linear search method and compute its best, worst and average space time complexity. 07

Q.3 a) Explain heap sort with an example. 08

b) Sort the given data using Quick sort : 35, 20, 25, 30, 15, 10, 40, 45 07

Q.4 a) Find optimal merge patterns for ten files whose lengths are : {28, 32, 12, 5, 84, 53, 91, 35, 3, 11} 08

b) Explain matrix multiplication using divide & conquer. 07

Q.5 a) Explain Huffman coding with suitable example. 08

b) Explain job sequencing with deadlines by taking suitable example. 07

Section B

Q.6 Solve any five questions: 10

a) Define multistage graph.

b) Define implicit & explain constraints.

c) What is least cost search?

d) State any two differences between dynamic & back tracking.

e) Define chromatic number of a graph.

f) What is branch & bound method.

Q.7 a) Determine optimal binary search tree for [END, GOTO, PRINT, STOP] with given probabilities as P(1:4) = (3,3,1,1) Q(0:4) = (2,3,1,1,1) 10

b) Explain biconnected component of a graph with example. 05

Q.8 a) Solve 4-Queries problem using backtracking method. 08

b) Write algorithm for single source shortest path. 07

Q.9 a) Find Hamiltonian cycle using backtracking for the given cost materials. 08

$$\begin{bmatrix} \infty & 10 & 15 & 20 \\ 5 & \infty & 9 & 10 \\ 6 & 13 & \infty & 12 \\ 8 & 8 & 9 & \infty \end{bmatrix}$$

c) Write algorithm for tree traversals. 07

Q.10 a) Solve 15-puzzle problem using branch & bound. Initial arrangement is: 09

$$\begin{bmatrix} 1 & 2 & 3 & 4 \\ 5 & 6 & & 8 \\ 9 & 10 & 7 & 11 \\ 13 & 14 & 15 & 12 \end{bmatrix}$$

b) Explain graph coloring problem and its application. 06

Total No. of Printed Pages:02

SUBJECT CODE NO:- E-63
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE/IT) Examination Nov/Dec 2017
Computer Networks - II
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B i) Q.No.1 and Q.No.6 are compulsory.
ii) Attempt any two questions from the remaining questions in each section.

Section A

Q.1 Attempt any five question 10

a) List four types of delays in Packet switched network.

b) What is routing? What is forwarding?

c) List the approaches to congestion control.

d) What is load shedding?

e) What is LAN emulation?

f) List the switching and management functions of ATM Layer.

g) What are the possible applications of ATM?

Q.2 a) Explain Bellman-Ford routing algorithm. 07

b) Explain Different approaches to congestion control in detail. 08

Q.3 a) Explain fragmentation & tunneling 07

b) Explain ATM LAN architecture. 08

Q.4 a) Explain differentiated services in detail. 07

b) Explain header formats in ATM with net diagram 08

Q.5 Write short notes on any three 15

a) Multicasting and Broadcasting

b) IGRP

c) Quality of service in Switched Networks

d) ATM Layers.

Section B

Q.6 Attempt any five 10

a) What is min-max fairness in TCP?

b) What do you mean by halt closure in TCP?

c) What is encapsulation and decapsulation?

d) What do you mean by port address?

e) What is Process to Process delivery?

f) Write RTP header format.

g) What is SNMP?

Q.7 a) Explain Elements of Transport Protocol 07

b) Explain functions of Network Management Features. 08

Q.8 a) Explain in detail name space 07

b) Explain connection Establishment and connection Release in Transport Layer. 08

Q.9 a) Explain FTP in detail with two types. 07

b) Explain Real Time control Protocol (RTCP) in detail. 08

Q.10 Write short notes on any three 15

a) H-323 Protocol

b) Socket Programming

c) Dynamic Domain Name System

d) Remote Logging.

SUBJECT CODE NO:- E-95

FACULTY OF ENGINEERING AND TECHNOLOGY

T.E.(CSE/IT) Examination Nov/Dec 2017

Theory of Computation

(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

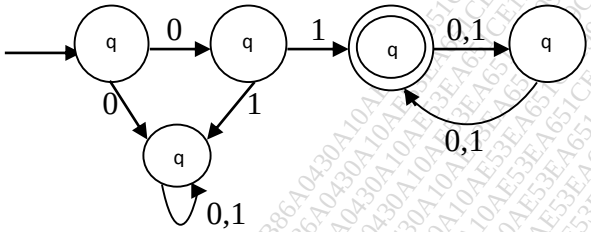
Please check whether you have got the right question paper.

N.B
i. Q. No. 1 and Q.No.6 are compulsory.
ii. Attempt any two questions from Q.No.2 to Q.No.5 and two questions from Q.No.7 to Q.No.10 of each section.
iii. Figures to the right indicate full marks.

SECTION A

Q.1 Attempt any five questions from the following : 10

a) Determine whether the following DFA accepts the string 011101 or not.



b) Define context-free grammar with suitable example.
c) Differentiate between NFA and DFA.
d) Find regular expression for set of all strings over {0, 1} ending with 11 and beginning with 100.
e) State Arden's Theorem. Where is it required?
f) Let G= ({S},{a,b,t,*},P,S) where P consists of : S⟶ S+S | S*S |a| b . Derive a + a*b.
g) Construct a finite automata for the regular expression 10(0+1)01.
h) Define Moore Machine with an example.

Q.2 a) Construct DFA equivalent to given NFA: 08

({p, q , r, s ,t},{0,1}, δ,p, {s })

Where δ is given by

States/Σ	0	1
⟶p	{p ,t}	{p, q}
q	Ø	{r}
r	{r}	{r}
*s	{s}	{s}
t	{s}	Ø

b) Define ambiguity in CFG. Show that the following CFG is ambiguous: 07

S⟶ a B| a A , A⟶ a AB |a| b, B⟶ Abb |b.

Q.3 a) Describe the closure properties of regular languages. 07

b) Construct a Moore machine equivalent to following Mealy machine: 08

Present State	Next state			
	a=0	Output	a=1	Output
→ q_1	q_1	1	q_2	0
q_2	q_4	1	q_4	1
q_3	q_2	1	q_3	1
q_4	q_3	0	q_1	1

Q.4 a) Show that L= $\{a^p \mid p \text{ is a prime}\}$ is not regular language. 07

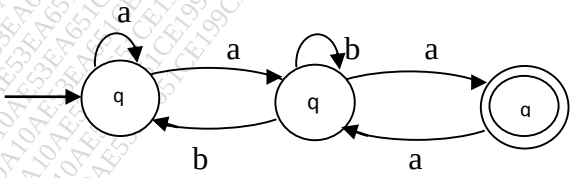
b) Let G=S→0B|1A, A→0|0S|1AA ,B→1|1S|0BB, for string 11001010, 08

Find: i) leftmost derivation,
ii) rightmost derivation,
iii) parse tree

Q.5 a) Draw finite automata for the following transition table & construct minimum state automata equivalent to it: 08

States/Σ	0	1
→A	B	C
B	D	E
C	F	G
D	D	E
E	F	G
F	D	E
G	F	G

b) Consider the following finite automata prove that the strings recognized are:- 07
(a + a(b + aa)*b)* a(b +aa)*a



2017

SECTION B

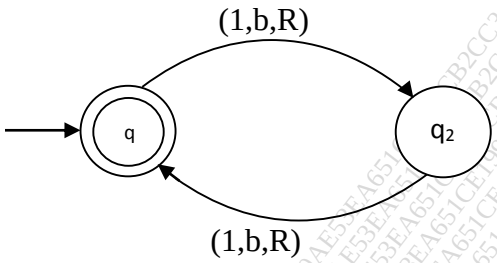
Q.6 Attempt any five question from the following: 10

a) Construct PDA for the following CFG:
s→ a |a S| bSS | SSb | SbS .

b) Define Chomsky Normal form with suitable example.

c) Differentiate between recursive & recursively enumerable languages.

d) Determine whether the string 1111 is accepted by the following Turing machine.



e) Discuss halting problem in Turing machine.

f) Define deterministic pushdown automata formally.

g) Explain decision problems involving context-free languages.

h) Let G be S→AB , A→a, B→C|b, C→D , D→E & E→a. Eliminate unit productions and get equivalent grammar.

Q.7 a) Find reduced grammar equivalent to G whose productions are: 07
S→AB|CA , B→BC|AB, A→a, C→aB|b.

b) Construct a grammar in Greibach normal form equivalent to the grammar. 08
S→AA|a , A→SS|b.

Q.8 a) Construct a PDA for the language L={ww^R | wϵ{a,b} * w^R is reverse of w} 08

b) Explain various programming techniques for Turing machine with suitable example. 07

Q.9 a) Design a TM over {1, b} which can compute a concatenation function over $\Sigma=\{1\}$. 07

b) Construct a CFG 'G' which accepts N(A), where, $A=(\{q_0,q_1\},\{a,b\},\{z,z_0\},\delta, q_0,z_0,\emptyset)$ and δ is given by- 08

$\delta(q_0,b,z_0) =\{(q_0,zz_0)\}$
$\delta(q_0,\Lambda,z_0) =\{(q_0, \Lambda)\}$
$\delta(q_0,b,z) =\{(q_0,zz)\}$
$\delta(q_0,a,z) =\{(q_1,z)\}$
$\delta(q_1,b,z) =\{(q_1, \Lambda)\}$
$\delta(q_1,a,z_0) =\{(q_0,z_0)\}$

Q.10 a) Explain the model of linear bounded automata in detail. 07

b) Find a grammar in CNF equivalent to the following grammar: 08
$S\rightarrow aAbB$, $A\rightarrow a\ A \mid a$, $B\rightarrow bB|b$

Total No. of Printed Pages:2

SUBJECT CODE NO: E-188
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE/IT) Examination Nov/Dec 2017
Software Engineering
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Q.No.1 from section A and Q.No.6 from section B are compulsory
ii. Attempt any two questions from the remaining in each section.
iii. Assume suitable data if necessary.

Section A

Q.1 Solve any five questions. 10
a) What are the components of software?
b) Enlist software management myths.
c) Define Software Engineering.
d) Justify the term "software is engineered".
e) What is data flow diagram?
f) State the objectives of software planning.
g) What is software design?
h) List the software design principles.

Q.2 A) With neat diagram, describe SDLC in detail. 08
B) List out different software process models. Explain any one in detail. 07

Q.3 A) What are different communication Techniques? Explain. 08
B) Describe data modeling with suitable example. 07

Q.4 A) Explain Loc based and FP based estimation of project. 08
B) What are the principles of UI design? Explain. 07

Q.5 Write any three short notes. 15
a) Information hiding
b) Waterfall model
c) Requirement analysis and specification
d) Software scope
e) Capability maturity model.

Section B

Q.6 Solve any five questions. 10

a) What is UML diagram?
b) Define OOA and OOP.
c) Write the definition of software Testing?
d) What do you mean by white box testing?
e) Write different forms of testing.
f) What is web app engineering process?
g) Enlist the attributes of web based system.
h) Define SCM.

Q.7 A) Explain things and relationship in UML 08
B) Explain use case diagram with suitable example. 07

Q.8 A) Draw the sequence diagram to elaborate working of washing machine. 07
B) Explain planning process for web engineering projects. 08

Q.9 A) Enlist and explain objectives of software testing. 08
B) Explain the project scheduling with timing diagram. 07

Q.10 Write short notes on (Any three) 15

a) Collaboration diagram
b) Object oriented design approach
c) Web app engineering layers
d) Agile planning
e) System testing.

Total No. of Printed Pages:2

SUBJECT CODE NO:- E-214
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE/IT) Examination Nov/Dec 2017
Database Management System
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Q. No. 1 from section A and Q. No. 6 from section B are compulsory
ii. Solve any two from remaining from section A and section B from each.
iii. Assume suitable data.

Section A

Q.1 Attempt any five questions. 10
1) What do you mean by mapping operation?
2) What are total and partial participation constraints?
3) Define attribute. What is key attribute?
4) List different types of End-users.
5) Define Relation Model Concept.
6) Explain distributed and client-server DBMS.
7) Define foreign key. What is the concept used for?
8) Explain properties of Relation.

Q.2 a) Describe how strong and weak entities differ and provide an example of each. 07

b) Design an ER schema for part of bank database. Each bank can have multiple branches and each branch can have multiple accounts. 08

Q.3 a) Explain Mapping of E-R to Relational model. 07

b) What is key? Explain different types of keys. 08

Q.4 a) What is file processing? Explain disadvantages of file processing. 07

b) Explain Aggregation with one of the example. 08

Q.5 Write short notes on the following (Any three) 15
a) Role of different levels of abstraction in detail.
b) Data models
c) Entity and Referential integrity constraints.
d) Generalization and Specialization.

Section B

Q.6 Attempt any five questions. 10

1) Need for concurrency control
2) Define BCNF
3) Explain ACID properties
4) Define Lock, shared and Exclusive lock.
5) Difference between Truncate and Delete.
6) What is Normalization?
7) List different types of Joins.
8) What is Multivalved dependency?

Q.7 a) What is functional dependency? Describe second normal form in detail. 07

b) What is decomposition? Explain lossy and lossless decomposition with example. 08

Q.8 a) What is back-up recovery? Explain techniques of backup recovery. 07

b) Consider following schema & answer the following Queries. 08

Employee (employee-name, street, city) works (employee-name, company-name, salary)
company (company-name, city) manages (employee-name, manger-name)

i) Find he names, street, city of all employees who works for 'Infosys' & earn more than $50,000
ii) Find the name of all employees in the database who live in the same cities as the companies for which they work.
iii) Find the name of the all employees in the database who do not work for 'Infosys'.
iv) Find the names of all employees in the database who earn more than every employee of 'TCS'.

Q.9 a) What is deadlock? What are different ways of handling deadlock? 08

b) What is serializability? Explain concept of view serializabiltiy. 07

Q.10 Write short notes on the following (Any three) 15

a) Two phase Locking protocol.
b) Aggregation Function in SQL.
c) Define Join dependency. Explain 5NF.
d) Dirty Read problem. Explain?

Total No. of Printed Pages:02

SUBJECT CODE NO: E-338
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE/IT) Examination Nov/Dec 2017
Operating System
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Q.No.1 and Q.No.6 are compulsory.
ii. Attempt any two questions from Q.No.2 to Q.No.5 and Q.No.7 to Q.No10 of each section.
iii. Figures to the right indicate full marks.

SECTION-A

Q.1 Attempt any five questions from following: 10
1) Differentiate between multiprogramming & multitasking.
2) How smart card OS works?
3) What are the objectives of OS?
4) What is significance of PCB?
5) What is turnaround time? Explain with example.
6) What do you mean by preemptive & non-preemptive type as scheduling?
7) Enlist any four operations of file.
8) Differentiate between field & record.

Q.2 a) Explain OS as a resource manager. 07
b) What is critical section? Explain semaphore with example. 08

Q.3 a) Explain types of threads in detail. 07
b) Explain file sharing. 08

Q.4 a) Explain real time and time sharing OS. 08
b) Explain linked-list allocation of file. 07

Q.5 a) Explain free space management in file system. 07
b) Consider the following set of processes, with the length of the CPU Burst given in milliseconds: 08

Process	Burst time	Priority
P_1	2	2
P_2	1	1
P_3	8	4
P_4	4	2
P_5	5	3

The processes are assumed to have arrived in order $P_1\ P_2\ P_3\ P_4\ P_5$ all at time zero.

i) Draw Gantt charts that illustrates the execution of these processes using the following scheduling algorithms: FCFS, SJF, non-preemptive priority (a larger priority number implies a higher priority) and RR(Quantum=2)

ii) Calculate waiting time of each processes of SJF & RR scheduling.

SECTION-B

Q.6 Attempt any five from following questions: 10

1) What is need of virtual memory?
2) What are the disadvantages of fixed sized memory partition?
3) What is swapping?
4) Why device drivers are required?
5) What is spooling?
6) What is safe state?
7) Explain circular wait condition in dead lock.
8) How to avoid deadlock?

Q.7 a) Explain segmentation in detail. 07

b) Suppose a disk drive has 200 cylinders, numbered 0 to 199. The driver is currently serving a request at cylinder 50. The queue of pending request is 95,180,34,119,11, 123,62,64 starting from current head position what is the total distance in cylinder that the disk arm require to satisfy all pending requests for the following algorithms? 08

1) FCFS
2) SSTF

Q.8 a) Explain system structure of windows 7. 07

b) What is paging? Discuss basic paging technique in detail. 08

Q.9 a) Explain RAID in detail. 07

b) What are necessary conditions for deadlock? Explain detection & recovery. 08

Q.10 a) What are the goals of I/O s/w? 07

b) Consider following page reference string: 08

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

Assuming decimal paging with three frames. How many page faults would occur for following page replacement algorithms?

1) FIFO
2) LRU

Total No. of Printed Pages:02

SUBJECT CODE NO:- E-414
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE) Examination Nov/Dec 2017
Digital Image Processing
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Question No.1 and Question No.6 are compulsory.
ii. Attempt any two questions from the remaining question from each section.
iii. Assume suitable data if necessary.

Section A

Q.1 Answer the following.(any five) 10
a) What is image transform?
b) Define first order gradient derivative operator.
c) Define entropy of an image.
d) What is image restoration?
e) What is image compression?
f) Define DCT and its inverse.
g) What is digital image?
h) Give the mask used for high-boost filtering.

Q.2
a) With the neat diagram, explain the fundamental steps involved in digital image processing. 08
b) Explain histogram equalization with example. 07

Q.3
a) Explain image compression model with neat diagram. 08
b) What is connectivity in digital image processing? Explain different types of connectivity. 07

Q.4
a) Explain contrast stretching & bit plane slicing. 08
b) Explain in brief about noise models with their principles of working. 07

Q.5 Write short notes on 15
a) Spatial domain filters.
b) Run length coding.
c) MSE & PSWR

Section B

Q.6 Answer the following (any five) 10

a) What is an edge?
b) What are the major effects in the erosion process?
c) Define gradient operator.
d) Define chain code.
e) What is boundary descriptor?
f) Write applications of Segmentation.
g) What is hue and saturation?
h) How a point can be detected?

Q.7
a) Describe seeded region growing Segmentation technique in detail. 08
b) Discuss edge detection process in image segmentation. 07

Q.8
a) Elaborate the morphological algorithm for thinning in detail along with boundary extraction algorithm. 08
b) Explain RGB and HSI color models in brief. 07

Q.9
a) Explain simple boundary and region descriptors. 08
b) What is image texture? What are different approaches to describe texture? 07

Q.10 Write short notes on 15

a) Boundary representation techniques.
b) Color transformations.
c) Applications of image segmentation.

Total No. of Printed Pages:2

SUBJECT CODE NO:- E-295
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE/IT) Examination Nov/Dec 2017
Programming in Java
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Question No.1 and 6 are compulsory.
ii. Attempt any two questions from each section.
iii. Figures right indicates full marks.
iv. Assume suitable data if necessary.

Section A

Q.1 Attempt any five questions. 10
a) What is String class? Enlist functions of String class.
b) What is package? Explain types of packages in java.
c) Define the term byte code.
d) What is JVM? What it does in java?
e) How to set thread priorities in java? Explain with suitable example.
f) Explain threading and multithreading in java.
g) How to implement interface in java?
h) Explain the terms final variable & final methods.

Q.2 a) Write short notes on i) public ii) void iii) main iv) static 08
b) Explain constructor and constructor overloading with suitable example. 07

Q.3 a) Explain why java is evolved? Explain features of java in detail. 08
b) Explain thread life cycle in detail. 07

Q.4 a) What is difference between extending and implementing? 07
b) Write steps for creating & using packages in java. 08

Q.5 a) How arithmetic exceptions are solved in java. Write a code for arithmetic exception. 07
b) Give brief introduction of : i) Synchronization ii) Runnable interface 08

Section B

Q.6 Attempt any five questions. 10

a) What is applet? Explain local & remote applet with suitable diagram.
b) What is result set?
c) What is container?
d) Write four JDBC drives.
e) Write applet program to display "Hello world" message.
f) What is port? List available ports in system.
g) What is object serializable?
h) What is SQL?

Q.7
a) Explain life cycle of applet with suitable diagram. 08
b) Explain networking classes & interfaces in detail. 07

Q.8
a) Explain use of select statement in java to display records from employee database. (Assume suitable fields for employee table.) 08
b) Write a java code for file handling. Program will copy contents form one file to another file. 07

Q.9
a) Draw and explain hierarchy of reader and writers classes. 08
b) Write a java code to display form components using JButton, JLable, JTextField. 07

Q.10
a) Write a java code to insert a record of student into database.(Assume suitable fields for student) 08
b) Explain following term in brief: i) Pipes ii) filters iii) Event listeners iv) socket 07

Total No. of Printed Pages:2

SUBJECT CODE NO:- E-164
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE/IT) Examination Nov/Dec 2017
Software Testing and Quality Assurance
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B i) Q. No.1 from Section A and Q. No.6 from Section B are compulsory.
ii) Attempt any two questions from the remaining questions in each section.

Section "A"

Q.1 **Answer the following (any five)** 10

1) What are the objectives of software testing?
2) List out different types of testing standards and explain any one in detail.
3) List out roles and activities in software testing life cycle.
4) What is load testing?
5) What is V model
6) What is decision coverage?
7) What do you mean by fault?
8) What is BVA?

Q.2 a) What is OOT. Explain in detail 08
b) Explain Stress testing in detail 07

Q.3 a) Explain white box testing in detail 07
b) Explain security testing in detail 08

Q.4 a) Explain STLC in detail. 08
b) Explain statement coverage & condition coverage. 07

Q.5 Write Short Notes on (any three) 15

1) Unit testing
2) Web testing
3) SQA
4) Path testing.

Section "B"

Q.6 Answer the following (any five) 10

1) Explain the guidelines for selecting the testing tools.
2) What are the components of test planning documents.
3) Define : (i) Defect ii) Failure
4) Explain any four advantages of testing tools
5) Define test case
6) What are the important factors of test plan.
7) What are the categories of defects
8) Define testing strategies.

Q.7 a) How to select testing tools? 07
b) Explain risk analysis in detail 08

Q.8 a) What are the objectives of test plant and documentation plan. 07
b) Explain defect reporting in detail. 08

Q.9 a) Explain in detail data driven scripts in win Runner 08
b) What is the need of testing tools 07

Q.10 Write short notes on (any three) 15

(1) Open source testing tool.
(2) Defect reporting
(3) Features of win Runner
(4) Test cases.

Total No. of Printed Pages:02

SUBJECT CODE NO: E-255
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(IT) Examination Nov/Dec 2017
Multimedia Computing
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
1. Q.1 and Q.6 are compulsory.
2. Solve any two questions from each section.

SECTION-A

Q.1 Attempt any five questions: 10

a) Explain :
   i) Pixel addressability.
   ii) Refresh rate
b) Explain use of graphics in Entertainment field.
c) Define acoustics
d) With respect to color model, what is meant by
   i) Primary colors
   ii) Secondary colors
e) Explain bitmap vs. vector image representation.
f) Differentiate between loudness & pitch of a sound wave.
g) Define Multimedia presentation.

Q.2
a) Explain various principles of animation. 07
b) Explain the CRT visual display in brief. 08

Q.3
a) Write a note on VRML. 07
b) Explain CMYK color model in brief 08

Q.4
a) Explain in brief various types of microphone. 08
b) Explain H.261 & h.263 video file formats in brief. 07

Q.5
a) Comment on role of testing & feedback stages in improving quality of the presentation. 07
b) Explain the working principle of digital camera. 08

SECTION-B

Q.6 Attempt any five questions. 10

a) Explain DVD-RAM
b) Define STB
c) Define compression ratio.
d) Define TIFF.
e) Distinguish between bandwidth & load of network.
f) Explain run-length encoding.
g) What is spatial & temporal redundancy?

Q.7
a) Explain the principle of compact disc. 07
b) Explain in brief the various steps in the MPEG compression standard. 08

Q.8
a) Explain working of DPCM encoder & decoder. 08
b) Explain CD-R/W in brief. 07

Q.9
a) Explain H.261 compression standard. 07
b) Explain technical basis of digital versatile disc with diagram. 08

Q.10
a) Explain media on demand-Interactive TV (ITV). 07
b) Explain video streaming in brief. 08