

GOVERNMENT POLYTECHNIC, KOLHAPUR 416004.

(An Autonomous Institute of Govt. of Maharashtra)

ODD TERM END EXAM NOV/DEC -2018**EXAM SEAT NO.**

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LEVEL: THIRD**PROGRAM: INFORMATION TECHNOLOGY****COURSE CODE: ITF305/IT206/ITE305 COURSE NAME: DATABASE MANAGEMENT SYSTEM****MAX. MARKS: 80****TIME: 3 HRS.****DATE: 13/12/2018****Instruction:-**

- 1) Answers must be written in the main answer book provided. (and supplements if required)
- 2) Illustrate your answers with sketches where ever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables will be made available on request.
- 5) Assume and mention suitable additional data necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) **QN**>Question No, **SQL**>Sub-Question No, **R**> Remembering, **U**>Understanding, **A**>Application **CO**>Course outcome

S	Q	Question Text	R	CO	Marks
Q.1		Attempt any FOUR			(08)
	a)	Define DBMS. List any two properties of database.	R	1	
	b)	Define view.	R	3	
	c)	List different relational algebraic operators.	R	2	
	d)	Differentiate between DBMS and file system.	U	1	
	e)	Define cursor. List two types of cursor.	R	3	
	f)	Explain DELETE and DROP command with syntax and example.	U	3	
Q.2		Attempt any FOUR			(16)
	a)	List DDL and DCL commands.	R	1	
	b)	Consider following schema. Employee (empname, empid, dob, salary, job) Create a view on employee having attribute (empname, empid, dob, salary, job). Where salary is greater than 20,000.	A	3	
	c)	Write a PL/SQL block for calculating factorial of a number entered by user.	A	3	
	d)	Consider the following database schema student (roll no, name, address, standard, dob, percent). Write queries for the following i) Display all students which having first class. ii) Update rollno of each student by adding 1000 to it. iii) Delete percent column from table. iv) Display student whose birth date is before 01-sep-2003	A	3	
	e)	List relational algebraic operations and explain set difference operation with example.	U	2	
	f)	Explain with example i) Group by ii) Having	U	3	
P.T.O					

Q.3	Attempt any FOUR			(16)
a)	Create a trigger for Emp table which makes the entry in emp-name column in uppercase.	A	3	
b)	Draw E-R diagram of collage system. The collage maintains the data of students, employees, books.	A	1	
c)	Explain primary key entity integrity constraints with suitable example.	U	3	
d)	Write relation algebra expression for the following: Find the details of the employee whose salary>8000	A	2	
e)	Differentiate between stored procedure and function.	U	3	
f)	Write syntax for following SQL commands. i) Crating table. ii) Inserting a record. iii) Updating a record. iv) Deleting a record.	R	3	
Q.4	Attempt any FOUR			(08)
a)	State purpose of normalization.	U	4	
b)	Define functional dependency.	R	4	
c)	Enlist measure of query cost.	R	5	
d)	Define term time-stamp.	R	5	
e)	List ways of implementing a time-stamp.	U	5	
f)	Describe elements of log record.	U	5	
Q.5	Attempt any FOUR			(16)
a)	Explain normalization in database using 2NF.	U	4	
b)	Describe multi-valued dependency.	U	4	
c)	Illustrate ACID properties of transaction.	U	4	
d)	Describe various states of transaction with diagram.	U	4	
e)	Explain concept of deadlock with example.	R	5	
f)	Describe possible modes of failure of a transaction.	U	5	
Q.6	Attempt any TWO			(16)
a)	Explain concept of serializability.	U	4	
b)	Describe two-phase locking protocol with example.	U	4	
c)	List & explain benefits of using checkpoint in a log.	U	5	

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LEVEL :- FOURTH**PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITF409/ITE410****COURSE NAME PHP****MAX. MARKS : 80 TIME : 3 HRS. DATE :- 17/12/2018**

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S	Section- I	R/ U/ A	Co ITF 409	Mar ks
Q.1		Attempt any FOUR :			08
	a)	State term MYSQL.	R	1	
	b)	Enlist common uses of PHP.	R	1	
	c)	State use of static HTML.	R	3	
	d)	Define local and global variable.	R	2	
	e)	State use of preg-match ()	R	2	
	f)	State use of strto upper()	R	3	
Q.2		Attempt any FOUR :			16
	a)	Explain following features of PHP & MYSQL. i) cost ii) Stability c) Many extensions iv) Speed.	U	1	
	b)	How to install PHP on Linux? How to test PHP installation on Linux ? Explain.	U	1	
	c)	Describe "Escaping PHP code"	U	2	
	d)	Describe retrieving environment variable using REMOTE_ADDR.	U	2	
	e)	Explain following string function with example i) Strlen () ii) Strrev ()	A	3	
	f)	Write a program to displaying platform specific content.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Write a note on history of MYSQL & PHP.	U	1	
	b)	State client side and server side scripting? Give example.	U	3	
	c)	Which three packages provide Apache, PHP, & MYSQL? Explain any one in detail.	U	1	
	d)	Describe PHP variable and value type.	U	2	
	e)	Explain with example how to redirect to new location in PHP?	U	3	
	f)	Write a program to create input form for PHP string function.	A	3	

P.T.O.

QN	S Q N	Section- II	R/ U/ A	Co MEF 503	Mar ks
Q.4		Attempt any FOUR :	A		08
	a)	State difference between r and rt mode.	R	4	
	b)	How to create a new user in MYSQL?	R	5	
	c)	State syntax of MYSQL- connect () with example.	R	5	
	d)	Define SMALLINT MYSQL data type.	R	5	
	e)	Define the term tables in PHP.	R	5	
	f)	Define the term record related to tables in PHP with example.	R	5	
Q.5		Attempt any FOUR :			16
	a)	Write a program to create a new file.	A	4	
	b)	Explain how to copy files in PHP.	U	5	
	c)	Explain PHP connecting to MYSQL.	U	5	
	d)	Write a PHP program for listing database on a server.'	A	5	
	e)	State two steps form sequence for creating table.	A	5	
	f)	Write a html code for add record form as follows.	A	5	
		FORMAT ○ ○ ID DATE TITLE RECORD LABEL MY NOTES ADD BUTTON			
Q.6		Attempt any FOUR :			16
	a)	Write a program for creating record adding script and populating table.	A	5	
	b)	List and explain any eight data types of MYSQL.	U	5	
	c)	Write a PHP table creation script.	A	5	
	d)	Describe breaking your connection script in MYSQL.	U	5	
	e)	Explain how to display directory content.	U	4	
	f)	Explain modes used with Fopen ().	U	4	

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LEVEL :- **FOURTH**

COURSE CODE :- **ITE504/ITF410**

COURSE NAME **MULTIMEDIA TECHNIQUES**

MAX. MARKS : **80** TIME : **3 HRS.** DATE :- **17/12 / 2018**

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Figure to the right indicate marks.
- 3) Illustrate your answers with sketches wherever necessary.
- 4) Use of non-programmable pocket calculator is permissible.
- 5) Mathematical and other tables shall be made available on request.
- 6) Assume additional suitable data necessary.
- 7) Use of Mobile is strictly prohibited.

QN		S	Section-I					Ma rks
Q.1			Attempt any FOUR :					08
		a)	List the activities performed by multimedia developers.					
		b)	List steps to create digital audio					
		c)	What is bitmap?					
		d)	Define acoustics.					
		e)	Enlist any four image file formats.					
		f)	List any two painting tools.					
Q.2			Attempt any FOUR :					16
		a)	What is multimedia? Give definition of interactive media and hypermedia.					
		b)	Write steps to change following i) Logon sound to Windows ii) Windows log off sound.					
		c)	How vector drawing works? give example.					
		d)	Explain features of digital video.					
		e)	Write stepwise procedure to rate Rolling ball.					
		f)	Write the use of text editing tools in multimedia.					
Q.3			Attempt any FOUR :					16
		a)	Write the use of video tools in multimedia.					
		b)	How file size increases or decreases Quality of sound?					
		c)	Explain various color palettes available in computers.					
		d)	Give the use of following i) chatting ii) Voicemails.					
		e)	Write down the principles of animation.					
		f)	Write different Broadcast video standards.					

P.T.O.

Q.N	S Q N	Section- II	Ma rks
Q.4		Attempt any FOUR :	08
	a)	State the role of patent.	
	b)	Define polymorphism.	
	c)	List down any two problems of multimedia in training.	
	d)	State requirements for forming contract.	
	e)	Define Kiosks.	
	f)	State common facilities provided by object management group.	
Q.5		Attempt any FOUR :	16
	a)	Explain any two activities of multimedia in office.	
	b)	Write short note on i) Object Request Broker. ii) Object services.	
	c)	Explain electronic Trading.	
	d)	Explain design phase of developing multimedia application.	
	e)	Explain binding of messages to methods with example.	
	f)	Describe the impact of multimedia on business activities.	
Q.6		Attempt any TWO :	16
	a)	Write sort note on i) Copyright ii) Intellectual property Rights.	
	b)	Explain object management group with its architecture.	
	c)	Explain Methodologies used in developing multimedia application	

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LEVEL: FIRST**PROGRAM: EE/IE/E&TC/IT****COURSE CODE: CCF102/CCE102****COURSE NAME: ENGINEERING PHYSICS****MAX. MARKS: 80****TIME: 3 HRS.****DATE: 14/12/2018**

Instruction:-

- 1) Answers must be written in the main answer book provided. (and supplements if required)
- 2) Illustrate your answers with sketches where ever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables will be made available on request.
- 5) Assume and mention suitable additional data necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN>Question No, SQN>Sub-Question No, R> Remembering, U>Understanding, A>Application CO>Course outcome

S QN	S Q	Question Text	R U A	CO CCF 102	Mar ks
Q.1		Attempt any FOUR			(08)
	a)	Define stress and state its types.	R	1	
	b)	Define compressibility of liquid and write its unit.	R	1	
	c)	Derive relation between SI and CGS units of coefficient of viscosity of liquid.	A	1	
	d)	State effect of impurity and temperature on surface tension of liquid.	U	1	
	e)	Differentiate between free and forced oscillations(any two points)	U	2	
	f)	State any two applications of nanotechnology in textile.	R	3	
Q.2		Attempt any FOUR			(16)
	a)	State Hook's law. Define Young's modulus, Bulk modulus and modulus of rigidity.	R	1	
	b)	Write any four applications of viscosity.	R	1	
	c)	Explain significance of angle of contact.	U	1	
	d)	Derive an expression for surface tension by capillary rise method.	A	1	
	e)	State any four characteristics of linear SHM.	R	2	
	f)	Define the following terms i) Nanometer ii) Nanoscale iii) Nanoparticle iv) Nanostructure material	R	3	
Q.3		Attempt any FOUR			(16)
	a)	Define following terms i) Viscosity ii) Viscous force iii) Velocity gradient iv) Coefficient of viscosity.	R	1	
P.T.O					

	b)	With a neat diagram, explain molecular theory of surface tension.	U	1	
	c)	Differentiate between transverse wave and longitudinal wave (any four points)	U	2	
	d)	State any four applications of resonance.	R	2	
	e)	A wire of length 1 meter extends by 2 mm when stretched by a load of 4kg. Find the area of cross-section of wire if $Y=2 \times 10^{11} \text{ N/m}^2$	A	1	
	f)	State any four applications of nanotechnology in the field of automobile.	R	3	
Q.4		Attempt any FOUR			(08)
	a)	The refractive index of a glass prism with respect to air is 1.51 and velocity of light in air is $3 \times 10^8 \text{ m/s}$. Calculate velocity of light in glass.	A	4	
	b)	State Ohm's law.	R	4	
	c)	State Plank's hypothesis.	R	5	
	d)	Write the principle of production of x-rays.	R	5	
	e)	State any two applications of LASER.	R	5	
	f)	State two advantages of optical fiber over conventional metal conductors.	U	6	
Q.5		Attempt any FOUR			(16)
	a)	Define refraction of light. State Snell's law of refraction.	R	4	
	b)	Four resistances in the Whetstone's network are 20Ω , 30Ω , 15Ω , and R_4 Ω respectively in cyclic order. Calculate the value of R_4 to get null deflection in the galvanometer (To balance the network)	A	4	
	c)	Derive the expression for equivalent resistance, when three resistances are connected in series.	A	4	
	d)	State principle of photoelectric cell & explain its construction.	U	5	
	e)	Explain population inversion with the help of diagram.	U	5	
	f)	State four applications of optical fiber.	R	6	
Q.6		Attempt any FOUR			(16)
	a)	State any four applications of photoelectric effect.	R	5	
	b)	With neat labelled diagram explain production of x-rays by Coolidge x-ray tube.	U	5	
	c)	i) Define dispersion of light. ii) Define specific resistance with S.I unit.	R	4	
	d)	State and explain properties of LASER.	U	5	
	e)	i) An accelerated electron emits a quantum of radiation with frequency 8×10^8 cycles per second. Calculate energy of electron ($h=6.625 \times 10^{-34} \text{ Js}$) ii) Draw the structure of optical fiber.	A	5	
	f)	Explain total internal reflection phenomenon.	U	6	

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LEVEL :- FOURTH PROGRAM : INFORMATION TECHNOLOGY**COURSE CODE :- ITF406/IT402/ITE406****COURSE NAME :- JAVA PROGRAMMING****MAX. MARKS : 80 TIME : 3 HRS. DATE :- 14/12/2018**

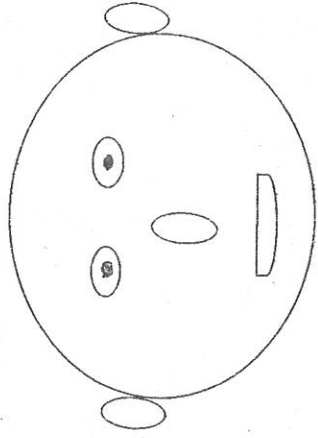
Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
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- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Section- I	R/ U/ A	Co ITF 406	Mar ks
Q.1		Attempt any FOUR :			08
	a)	Write any two benefits of vector.	R	2	
	b)	List out system API packages.	R	3	
	c)	Give meaning of data encapsulation and dynamic binding.	R	2	
	d)	Differentiate between Java and C++ (any two)	R	1	
	e)	Define type casting. Enlist its types.	R	1	
	f)	Write syntax and use of <u>this</u> keyword.	R	2	
Q.2		Attempt any FOUR :			16
	a)	Explain any four methods of Vector's with syntax, use and examples.	U	2	
	b)	Explain any four features of Java programming.	U	1	
	c)	Write a Java program to implement constructor overloading.	A	2	
	d)	Write steps to create and access package with example.	U	3	
	e)	Explain labeled loop concept with its syntax and an example.	U	1	
	f)	Write a Java program to implement interface concept.	A	3	
Q.3		Attempt any FOUR :			16
	a)	Write a Java program to implement any four methods of string buffer.	A	2	
	b)	Write a Java program to implement any four mathematical functions.	A	1	
	c)	List out types of inheritance in Java. Explain any two with syntax & example.	U	2	
	d)	Explain following terms with syntax and example. i) Abstract method and classes. ii) Final methods and final classes.	U	2	
	e)	Write a Java program for following example. Create class A inside package1. Create class B in package2. Access class A and Class B outside of package in main class. Java file. Assume appropriate methods for each class.	A	3	
	f)	Explain static nested inner classes concept with syntax and example.	U	2	

P.T.O.

QN		Section- II		R/ U/ A	Co ITF 406	Mar ks
Q.4	S Q N	Attempt any FOUR :				08
	a)	Explain with syntax methods of frame class.		U	4	
	b)	List down method of color and font class.		R	4	
	c)	Draw neat diagram of applet life cycle.		R	4	
	d)	State the advantages of Exception.		R	5	
	e)	Write procedure to set Layout for pannel		A	6	
	f)	List events handled by Window Listener interface.		R	6	
Q.5		Attempt any FOUR :				16
	a)	Develop Java program to display following menu on frame. Color → Red → Green → Blue The color of background should change accordingly on clicking menu items.		A	4	
	b)	Describe the steps involved in developing and running an applet.		U	4	
	c)	Explain following method i) Suspend () ii) Yield () iii) Set priority		U	5	
	d)	Develop Java program to display two checkboxes with your favorite colors as labels and list box of your favorite dishes.		A	5	
	e)	Explain AWT event hierarchy.		U	6	
	f)	Explain role of Mouse Listener interface in handling mouse event.		U	6	
Q.6		Attempt any FOUR :				16
	a)	Explain <applet > tag with all its attribute.		U	4	
	b)	Develop an applet to display square inside circle.		A	4	
	c)	Explain life cycle of thread.		U	5	
	d)	Write a program to demonstrate the use of BorderLayout.		U	6	
	e)	Explain how event handling is done in Java.		U	6	
	f)	Develop Java program to produce following output.		A	4	



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LEVEL :- FIRST**PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITF104****COURSE NAME :- BASIC ELECTRONICS****MAX. MARKS : 40 TIME : 2 HRS. DATE :- 15/12/2018****Instruction :-**

- 1) Answers must be written in the main answer book provided. (and supplements if required)
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
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- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S	Q	N	Question Text	R/ U/ A	Co ITF 104	Ma rks
Q.1				Attempt any FOUR :			08
	a)			Give classification of resistors.	R	1	
	b)			List any four applications of P-N junction diode.	R	2	
	c)			Define β of transistor.	R	3	
	d)			Draw the circuit diagram of transistor shunt voltage regulator.	R	4	
	e)			List any four specifications of capacitor.	R	1	
	f)			Give the significance of ripple factor.	R	4	
Q.2				Attempt any FOUR :			16
	a)			Draw constructional diagram of wire wound resistor and explain in brief.	U	1	
	b)			Describe the operation of P-N junction diode under forward biased condition with the help of diagram.	U	2	
	c)			Define transistor biasing. State the need of biasing. List types of biasing circuit.	R	3	
	d)			Compare half wave and full wave rectifier in terms of the following. i) Output waveform ii) Rectifier efficiency iii) Ripple factor iv) D.C. voltage.	R	4	
	e)			Define the following terms with respect to inductor. i) Self inductance ii) Mutual inductance iii) Coefficient of coupling. iv) Inductive reactance.	R	1	
	f)			Explain working of transistor series voltage regulator with neat circuit diagram.	U	4	
Q.3				Attempt any FOUR :			16
	a)			Draw the V-I characteristics of zener diode and explain its working.	U	2	
	b)			Explain transistor as a switch.	U	3	
	c)			Draw and explain the construction of an aluminium electrolytic capacitor.	U	1	
	d)			Draw circuit diagram of center tap rectifier with input and output waveform.	R	4	
	e)			Compare CB, CE and CC configuration. (any 4 points)	R	3	
	f)			Explain the formation of N-type extrinsic semiconductor.	U	2	

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LEVEL :- FIRST PROGRAM : INFORMATION TECHNOLOGY**COURSE CODE :- ITE108****COURSE NAME :- BASIC ELECTRONICS****MAX. MARKS : 80 TIME : 3 HRS. DATE :- 15/12 / 2018****Instruction :-**

- 1) Answers must be written in the main answer book provided.(and supplements if required)
- 2) Figure to the right indicate marks.
- 3) Illustrate your answers with sketches wherever necessary.
- 4) Use of non-programmable pocket calculator is permissible.
- 5) Mathematical and other tables shall be made available on request.
- 6) Assume additional suitable data necessary.
- 7) Use of Mobile is strictly prohibited.

QN	S Q N	Question Text	Ma rks
Q.1		Attempt any FOUR :	08
	a)	Enlist the applications of PN-junction diode.	
	b)	Define the term: semiconductor and insulator.	
	c)	Why doping is necessary?	
	d)	State the function of rectifier. Classify it.	
	e)	What is the necessity of transistor biasing?	
	f)	Draw symbol for NPN and PNP transistor.	
Q.2		Attempt any FOUR :	16
	a)	With the help of neat circuit diagram, explain working of half wave rectifier.	
	b)	Compare half wave and full wave rectifier with following points. i) Ripple factor ii) Efficiency iii) PIV iv) V_{dc}	
	c)	Explain the concept of P-type and N-type extrinsic semiconductor giving examples.	
	d)	Explain the construction of PN-junction diode with neat diagram.	
	e)	Draw the circuit diagram of fixed bias with emitter resistor. State its two advantages and disadvantages.	
	f)	Explain the active mode and saturation mode of transistor with suitable graph.	
Q.3		Attempt any FOUR :	16
	a)	Draw the circuit diagram of centre tap full wave rectifier with CLC filter.	
	b)	Draw the experimental setup to study V-I characteristics of P-N junction diode in forward bias. Draw the V-I characteristic curve for the same.	
	c)	Compare PN-junction diode and zener diode with any four points.	
	d)	Explain the construction of NPN transistor with neat diagram.	
	e)	Sketch the output characteristics of common base configuration and show different regions on it.	
	f)	What is the transistor biasing? Draw the DC load-line for transistor as an amplifier and locate Q-point on it.	

P.T.O.

QN	S Q N	Question Text	Ma rks
Q.4		Attempt any FOUR :	08
	a)	State the function of multistage BJT amplifiers. Give various types of multistage amplifier.	
	b)	Draw the symbol for N-channel and P-channel JFET.	
	c)	State the advantages of IC Regulators.	
	d)	Draw frequency response of two stage RC-coupled amplifier.	
	e)	Give the applications of regulated power supply.	
	f)	State the classification of field effect transistor.	
Q.5		Attempt any FOUR :	16
	a)	Draw single stage BJT amplifier. State function of each component used.	
	b)	Explain construction of n-channel JFET with neat diagram.	
	c)	Define the following terms with respect to JFET with proper equations i) Transconductance ii) Amplification factor.	
	d)	Explain operation of transistor shunt voltage regulator.	
	e)	State the need of multistage BJT amplifier. Enlist various types of coupling used in multistage amplifier. Give applications of multistage amplifier.	
	f)	Draw the pin diagram of IC 78 XX – series. State various features of it.	
Q.6		Attempt any FOUR :	16
	a)	Draw and explain construction of Depletion type MOSFET.	
	b)	Explain operation of two stage RC coupled amplifier with neat diagram.	
	c)	With the help of neat block diagram explain working of Regulated power supply.	
	d)	Draw symbol for Depletion type and enhancement type MOSFET. State any four applications of it.	
	e)	Compare between JFET and BJT with any four points.	
	f)	Explain working of zener diode as voltage regulator.	

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LEVEL : - FIFTH PROGRAM : INFORMATION TECHNOLOGY

COURSE CODE ITE508

COURSE NAME :- DISTRIBUTED SYSTEM

MAX. MARKS : 80 TIME : 3 HRS. DATE :- 04/ 12 / 2018

Instruction :-

1) Answer of two sections must be written in separate section answer book provided.

2) Figure to the right indicate marks.

3) Illustrate your answers with sketches wherever necessary.

4) Use of non-programmable pocket calculator is permissible.

5) Mathematical and other tables shall be made available on request.

6) Assume additional suitable data necessary.

7) Use of Mobile is strictly prohibited.

QN		S Q N	Section- I	Mar ks
Q.1			Attempt any FOUR :	08
	a)		Define distributed system.	
	b)		State event based architecture style.	
	c)		Define RPC.	
	d)		Describe layered architecture style.	
	e)		State Berkly Socket.	
	f)		Write higher level protocols.	
Q.2			Attempt any FOUR :	16
	a)		Explain Grid computing system.	
	b)		Explain distributed system is organized as middle ware.	
	c)		Describe edge server system.	
	d)		Explain simplified organization of internet search.	
	e)		Explain message queuing model.	
	f)		Explain MPI.	
Q.3			Attempt any FOUR :	16
	a)		Explain transaction processing system.	
	b)		Explain different form of transparencies.	
	c)		Describe structured Peer to Peer architecture.	
	d)		Explain a case when server acts as a client.	
	e)		Explain passing valve parameters in RPC.	
	f)		Describe asynchronous RPC.	

P.T.O.

QN	S Q N	Section- II	Marks
Q.4		Attempt any FOUR :	08
	a)	Define thread.	
	b)	Define mutual exclusion.	
	c)	Compare public key and private key.	
	d)	Draw neat diagram for context switching in interthread communication (IPC).	
	e)	Enlist the steps in election of Bully algorithm.	
	f)	Define code migration.	
Q.5		Attempt any FOUR :	16
	a)	Explain how authentication achieved using public-key cryptography.	
	b)	Describe a token ring algorithm.	
	c)	Differentiate between stateless and stateful server.	
	d)	Define the following terms i) Digital signatures ii) Session key.	
	e)	Describe the use of Lamport's Logical clock.	
	f)	Describe design issues of server.	
Q.6		Attempt any TWO :	16
	a)	Explain models for code migration in distributed system.	
	b)	Explain clock synchronization algorithms.	
	c)	Describe in detail confidential group communication.	

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ODD TERM END EXAM NOV./DEC-2018**EXAM SEAT NO.**

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LEVEL :- FOURTH PROGRAM : INFORMATION TECHNOLOGY**COURSE CODE :- ITF403****COURSE NAME :- INFORMATION SECURITY****MAX. MARKS : 80 TIME : 3 HRS. DATE :- 10/12/2018****Instruction :-**

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Section- I	R/ U/ A	Co MEF 403	Mar ks
Q.1		Attempt any FOUR :			08
	a)	Enlist active attacks.	R	1	
	b)	Define security service.	R	1	
	c)	Draw symmetric cipher model.	R	2	
	d)	Define substitution technique.	R	2	
	e)	If a user creates a cipher text by changing positions of alphabets in a plain text. Identify the technique used.	A	2	
	f)	Enlist algorithm modes for cipher.	R	3	
Q.2		Attempt any FOUR :			16
	a)	With neat diagram explain model for network security.	U	1	
	b)	With solved example explain stream cipher.	U	3	
	c)	Using following information convert plaintext to ciphertext using caser cipher. Plaintext- Government Polytechnic, Kolhapur replacement scheme + 5 (Key)	A	2	
	d)	Convert following text into ciphertext using key 'MONARCHY' & play fair cipher. "Come to my place on Monday".	A	2	
	e)	Explain Man in middle attack with example.	A	4	
	f)	With neat diagram describe asymmetric key cryptography.	U	4	
Q.3		Attempt any FOUR :			16
	a)	With example explain Diffi-Hellman key exchange.	A	4	
	b)	Explain conceptual working of SDES.	U	3	
	c)	Write RSA encryption algorithm.	A	4	
	d)	Describe confidentiality & Integrity Security Mechanism.	U	1	
	e)	Convert following plaintext using Vernam cipher. Plaintext = 'Welcome to our city'. Assume your own one time pad.	A	2	
	f)	Explain working of ECB mode.	U	3	

P.T.O

QN	S Q N	Section- II	R/ U/ A	Co ITF 403	Mar ks
Q.4		Attempt any FOUR :			08
	a)	Define authentication.	R	4	
	b)	List message authentication function.	R	4	
	c)	Write the use of secure socket layer protocol.	R	5	
	d)	List the protocol used for e-mail security.	R	5	
	e)	Define Intruder.	R	5	
	f)	Define malicious software.	R	5	
Q.5		Attempt any TWO :			16
	a)	Write procedure to achieve confidentiality, authentication and signature of message.	A	4	
	b)	Explain Handshake protocol.	U	5	
	c)	Explain password management and explain any four password selection strategy.	U	5	
Q.6		Attempt any TWO :			16
	a)	Write SHA = 1 algorithm and explain any one application of Hash function.	U	5	
	b)	Explain alert protocol and record protocol.	U	5	
	c)	i) Explain intrusion techniques. ii) Explain distributed Denial of service attack.	U	5	

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EXAM SEAT NO.

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LEVEL: THIRD

PROGRAM: IE/ET/EE/IT

COURSE CODE:

EIF301/ITTF301/EEF301/EEE305/E201/EE201/IEE301/IX201/IF201/IT201/ITE301/6201/EJ201/ETE301

COURSE NAME: APPLIED MATHEMATICS

MAX. MARKS: 80

TIME: 3 HRS.

DATE: 03/12/2018

Instruction:-

- 1) Answers must be written in the main answer book provided. (and supplements if required)
- 2) Illustrate your answers with sketches where ever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables will be made available on request.
- 5) Assume and mention suitable additional data necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN>Question No, SQN>Sub-Question No, R> Remembering, U>Understanding, A>Application CO>Course outcome

Q ^N	S	Q	Question Text	R	CO	Mar
N				U	EIF	ks
				A	301	
Q.1			Attempt any FOUR			(08)
	a)		What is the value of $\int 4^x \cdot 3^x dx$	R	1	
	b)		Find $\int (x^{3a} + a^{3x} + e^{3\log x}) dx$	R	1	
	c)		Find $\int \frac{4x-6}{2x^2-6x+4} dx$	R	1	
	d)		Find $\int \frac{x dx}{1+x^2}$	R	1	
	e)		Show that $\int e^x [f(x) + f'(x)] dx = e^x f(x) + c$	U	1	
	f)		Find the area enclosed by the curve $y = 3x^2$ and the lines $x=l$, $x=3$ and x -axis.	A	1	
Q.2			Attempt any FOUR			(16)
	a)		Show that $\int (\log x)^2 dx = x(\log x)^2 - 2x \log x + 2x + c$	U	1	
	b)		Show that $\int \frac{dx}{1+\tan x} = \frac{1}{2}x + \frac{1}{2} \log(\cos x + \sin x) + c$	U	1	
	c)		Evaluate $\int \frac{x+1}{x^2(x-2)} dx$	A	1	
	d)		Evaluate $\int \sin^{-1} x dx$	A	1	
	e)		Evaluate $\int \frac{dx}{1+\sin 2x}$	A	1	
	f)		Evaluate $\int \frac{3x+7}{2x^2+3x-2} dx$	A	1	
Q.3			Attempt any FOUR			(16)
	a)		Show that $\int_0^{\pi/4} \sec^4 x dx = \frac{4}{3}$	U	1	
	b)		Evaluate $\int_0^{\pi} \frac{x \sin x}{1+\cos^2 x} dx$	A	1	
	c)		Evaluate $\int_{-\pi/2}^{\pi/2} \frac{x \sin(1+x^2)}{1+x^4} dx$	A	1	

P.T.O

	d)	Find the area of the region lying between the parabolas $y^2=4ax$ and $x^2=4ay$ ($a>0$)	A	1	
	e)	If $v_1=3\cos wt$ and $v_2=4\sin wt$, express v_1+v_2 in the form $r\sin(wt+\alpha)$ and calculate its mean value over the range from $t=0$ to $t=\frac{\pi}{w}$	A	1	
	f)	Find the R.M.S value of $i=\sin 3t$ over the complete period.	A	1	
Q.4		Attempt any FOUR			(08)
	a)	Find order and degree of differential equation $\sqrt{\frac{dy}{dx}} = \sqrt[4]{\frac{d^2y}{dx^2}}$	U	2	
	b)	State the condition for exact differential equation.	R	2	
	c)	Verify that $y = \log x$ is solution of the D.E $x \frac{d^2y}{dx^2} + \frac{dy}{dx} = 0$	U	2	
	d)	The particle starts from rest. Its velocity at any time t is given by $3t^2 - 3t + 2$ Find the distance covered by particle at 3 sec.	A	3	
	e)	If $z_1 = 2 - 3i$ and $z_2 = 4 + 6i$ then find $z_1 + z_2$	A	3	
	f)	Define modulus and amplitude of complex number.	R	3	
Q.5		Attempt any FOUR			(16)
	a)	Solve $\frac{dy}{dx} = e^{2x-3y} + 4x^2 e^{-3y}$	A	2	
	b)	Show that $y^2 = ax^2$ is a solution of $x(\frac{dy}{dx})^2 - 2y\frac{dy}{dx} + ax = 0$	U	2	
	c)	Solve $x \log x \frac{dy}{dx} + y = 2 \log x$	A	2	
	d)	Solve $(2x + 3\cos y)dx + (2y \cdot 3x \sin y)dy = 0$	A	2	
	e)	Simplify using De-Moivre's theorem. $\frac{(\cos 3\theta + i \sin 3\theta)^4 (\cos 5\theta - i \sin 5\theta)^{4/5}}{(\cos \frac{9}{2}\theta + i \sin \frac{9}{2}\theta)^{2/3} (\cos \frac{4}{5}\theta - i \sin \frac{4}{5}\theta)^{10}}$	A	3	
	f)	Using Euler's exponential formulae prove that. i) $\sin^2 \theta + \cos^2 \theta = 1$ ii) $\cosh^2 \theta - \sinh^2 \theta = 1$	U	3	
Q.6		Attempt any FOUR			(16)
	a)	Solve $\frac{dy}{dx} = \frac{x^2 + y^2}{2xy}$	A	2	
	b)	Find the equation of curve whose slope is $(x-4)$ and which passes through the point $(3, 0)$	A	3	
	c)	Find cube root of unity.	A	3	
	d)	Find modulus and amplitude of $z = \frac{(1+i)^2}{1-i}$	A	3	
	e)	Separate into real and imaginary part of $\sin(x+iy)$.	A	3	
	f)	Show that $(1+i)^8 + (1-i)^8 = 32$	U	3	

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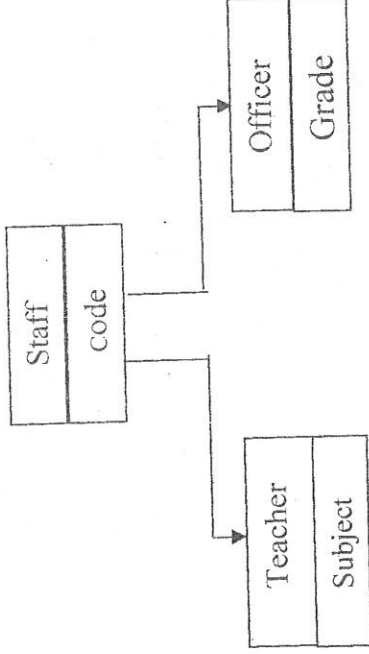
LEVEL :- THIRD **PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITF304/ITE304****COURSE NAME :- OOP USING C ++****MAX. MARKS : 80** **TIME : 3 HRS.** **DATE :- 11/12 / 2018****Instruction :-**

- 1) Answers must be written in the main answer book provided. (and supplements if required)
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S	Question Text	R/ U/ A	Co ITF 304	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Define OOP.	R	1	
	b)	List any two features of OOP.	R	1	
	c)	Write syntax declaration of main() function in C++.	R	1	
	d)	State inline function in C++.	R	1	
	e)	Define class with syntax.	R	2	
	f)	Define objects. Write syntax for object declaration.	R	2	
Q.2		Attempt any FOUR :			16
	a)	Describe any four basic concepts of OOP.	R	1	
	b)	Explain call by reference with example in C++.	U	1	
	c)	Define static member function and also give one example of it.	R	2	
	d)	Explain the concept of friend function.	U	2	
	e)	Write any four properties of constructor function.	R	3	
	f)	Write a program to declare a class 'student' having data members name and percentage. Write a constructor to initialize these data members Accept and display data for one student.	A	3	
Q.3		Attempt any FOUR :			16
	a)	Distinguish between procedures oriented and object oriented programming. (any 4)	U	1	
	b)	Explain function prototype in C++.	U	1	
	c)	Write how to define a member function outside the body of class.	R	2	
	d)	Explain array of object with example.	U	2	
	e)	Explain the concept of overloaded constructors in a class with suitable example	U	3	
	f)	Describe the concept of constructor with default arguments.	U	3	

P.T.O.

Q.4	Attempt any FOUR :			08
a)	List rules for overloading operator.	R	3	
b)	Write syntax for i) Opening of file ii) Reading a file.	R	6	
c)	Define multiple inheritances.	R	4	
d)	Write the advantages of pointer.	R	5	
e)	Give syntax and use of following formatted I/O operations. i) width() ii) Precision()	R	6	
f)	Define abstract class.	R	4	
Q.5	Attempt any FOUR :			16
a)	Explain virtual base class with example.	U	4	
b)	Define pointer. List different pointer operators. Give its example.	U	5	
c)	Write a program to overload '+' operator for addition of two complex Nos.	A	3	
d)	Describe with example 'Pure virtual function'.	U	5	
e)	Explain with example Unary Operator overloading.	U	3	
f)	Illustrate with example pointers to object.	U	5	
Q.6	Attempt any TWO :			16
a)	Write a program to copy the contents of one file to another file.	A	6	
b)	Write a program to overload '!' operator to calculate factorial of a given no.	A	3	
c)	Write a program for following hierarchy inheritance. Assume suitable member function.	A	4	



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LEVEL :- FIFTH **PROGRAM : INFORMATION TECHNOLOGY**

COURSE CODE :- ITE507/IF402

COURSE NAME :- MOBILE COMMUNICATION

MAX. MARKS : 80 **TIME : 3 HRS.** **DATE :- 03 / 12/ 2018**

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Figure to the right indicate marks.
- 3) Illustrate your answers with sketches wherever necessary.
- 4) Use of non-programmable pocket calculator is permissible.
- 5) Mathematical and other tables shall be made available on request.
- 6) Assume additional suitable data necessary.
- 7) Use of Mobile is strictly prohibited.

QN	S Q N	Section- I	Ma rks
Q.1		Attempt any FOUR :	08
	a)	Define user mobility.	
	b)	List any four mobile and wireless devices.	
	c)	State meaning of short term fading?	
	d)	Define uplink and downlink.	
	e)	How signal separation is done in TDMA?	
	f)	State the term ISDN & PSTN.	
Q.2		Attempt any FOUR :	16
	a)	Draw and explain simplified reference model used to communication system.	
	b)	Describe frequency division multiplexing (FDM).	
	c)	Explain advantages and disadvantages of cellular system.	
	d)	Write a note on Hidden and exposed terminals.	
	e)	Explain Bearer services of mobile.	
	f)	Explain Radio subsystem of GSM.	
Q.3		Attempt any FOUR :	16
	a)	Explain additional signal propagation effects.	
	b)	Describe frequency shift keying (FSK) with diagram.	
	c)	Explain classical Aloha with diagram.	
	d)	Compare FDMA & CDMA. (any four points)	
	e)	Draw and explain protocol architecture of 3G Network.	
	f)	Explain key features of GSM.	

P.T.O.

Q.N	S Q N	Section- II	Ma rks
Q.4		Attempt any FOUR :	08
	a)	State fast recovery mechanism.	
	b)	Draw architecture of IEEE 802.11 adhoc network.	
	c)	State use of DHCP.	
	d)	Draw simple Piconet with proper labels.	
	e)	Enlist state of client in coda.	
	f)	Define Mobile node.	
Q.5		Attempt any FOUR :	16
	a)	Draw Agent advertisement packet. State use of each field.	
	b)	Describe following terms. i) Home Network ii) Foreign Network iii) Scatternet iv) Piconet	
	c)	Explain Mobile TCP.	
	d)	What are the security issues in Mobile computing? Explain handling of these issues.	
	e)	What are the disadvantages of WLAN? Explain according to QoS, Restriction and Security.	
	f)	Explain slow start in traditional TCP.	
Q.6		Attempt any TWO :	16
	a)	Explain WAP architecture.	
	b)	Compare Infrastructure and Adhoc network with diagram.	
	c)	With neat diagram explain i) IP packet delivery to and from the mobile node. ii) I-TCP.	

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LEVEL: FOURTH**PROGRAM: INFORMATION TECHNOLOGY****COURSE CODE: ITF402/IT02/ITE402****COURSE NAME: SOFTWARE ENGINEERING****MAX. MARKS: 80****TIME: 3 HRS.****DATE: 06/12/2018****Instruction:-**

- 1) Answer to two sections must be written in separate section answer book provided
- 2) Illustrate your answers with sketches where ever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables will be made available on request.
- 5) Assume and mention suitable additional data necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) **QN>Question No, SQN>Sub-Question No, R> Remembering, U>Understanding, A>Application CO>Course outcome**

S	Q	Question Text	R	CO	Mar ks
QN	Q		U	ITF	
N			A	402	
Section -I					
Q.1		Attempt any FOUR			(08)
	a)	List characteristics of software.	R	1	
	b)	Define software engineering.	R	1	
	c)	Recall build & fix model.	R	1	
	d)	Define requirement engineering.	R	2	
	e)	List risk management activities.	R	3	
	f)	State risk & risk management.	R	3	
Q.2		Attempt any FOUR			(16)
	a)	Classify 4p's of management in software development.	U	1	
	b)	Describe waterfall model in brief.	U	1	
	c)	Extend the concept of Brainstorming session with example.	U	2	
	d)	Summarize data flow diagram in detail.	U	2	
	e)	Explain rise assessment and risk control.	U	3	
	f)	Explain principle of Albrecht's function point analysis.	U	3	
Q.3		Attempt any FOUR			(16)
	a)	Summarize changing nature of software with applications.	U	1	
P.T.O					

	b)	Classify the phases of RAD model in detail.	U	1	
	c)	Describe prototyping model with diagram.	U	1	
	d)	Explain type of requirement in detail.	U	2	
	e)	Describe crucial process steps of requirement engineering.	U	2	
	f)	Explain activities during software project planning.	U	3	

Section-II

Q.4		Attempt any FOUR			(08)
	a)	State need of software maintenance.	U	5	
	b)	Define acceptance testing.	R	5	
	c)	Draw a neat diagram of software maintenance life cycle.	R	5	
	d)	Define ripple effect.	R	5	
	e)	State any 2 differences between unit testing and integration testing.	U	5	
	f)	Define term test plan.	R	5	
Q.5		Attempt any FOUR			(16)
	a)	Explain adoptive and preventive maintenance.	U	5	
	b)	Define code efficiency with practices to ensure code efficiency.	R	4	
	c)	Enlist problems those occur during software maintenance.	R	5	
	d)	Explain top-down approach of software design.	U	4	
	e)	State objectives of software design.	R	4	
	f)	Explain software maintenance process.	R	5	
Q.6		Attempt any TWO			(16)
	a)	Explain activities involved in software quality assurance.	U	5	
	b)	Define cohesion. Explain any 4 levels of cohesion.	U	4	
	c)	Define beta testing with its advantages and disadvantages.	U	5	

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LEVEL :- FOURTH

COURSE CODE :- ITF401/IT30/ITE401

COURSE NAME :- NETWORK ADMINISTRATION

MAX. MARKS : 80 TIME : 3 HRS. DATE :- 04/12/2018

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S	SECTION - I	R/ U/ A	Co ITF 401	Ma rks
Q.1		Attempt any FOUR :			08
	a)	List any four network medium.	R	1	
	b)	Draw diagram of an enterprise network consisting of multiple LAN's.	A	1	
	c)	State use of RARP.	R	2	
	d)	Define primary server.	R	3	
	e)	Define global catalog server.	R	3	
	f)	State two basic types of objects in active directory.	R	3	
Q.2		Attempt any FOUR :			16
	a)	Describe needs of network design overview.	U	1	
	b)	Explain ISDN with diagram.	U	2	
	c)	Describe network printing issues and administration.	U	2	
	d)	Identify domain type of following domain and state its use. i) .biz ii) .areo iii) .us iv) .com	A	3	
	e)	Draw header format of DNS. Query message and explain.	U	3	
	f)	Explain object naming with i) LDAP Notation. ii) User principal name.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Suggest how to select network protocol and network medium for designing home or small office.	A	1	
	b)	Describe IP address assignment.	U	2	
	c)	Explain DSL with diagram.	R	2	
	d)	Describe question record of DNS with diagram.	U	3	
	e)	Explain resolver and resolving name to IP address.	R	3	
	f)	Describe domains, trees and forest.	U	3	

P.T.O.

Q.N	S Q N	SECTION - II	R/ U/ A	Co ITF 401	Ma rks
Q.4		Attempt any FOUR :			08
	a)	Enlist TCP/IT Utilities.	R	5	
	b)	Define virus and state its any two types.	R	4	
	c)	List types of firewall configuration.	R	6	
	d)	State applications of IP sec protocols.	R	6	
	e)	Define incremental backup.	R	4	
	f)	Identify the protocol which can be used for achieving confidentiality in virtual private Network.	A	6	
Q.5		Attempt any FOUR :			16
	a)	Explain ESP format.	U	6	
	b)	Describe preventing virus infection in network.	U	4	
	c)	With example explain NET config and Net session utility.	U	5	
	d)	Explain Magnetic tape drive and CD/DVD. Drive for backup.	U	4	
	e)	Compare packet filter with application gateway.	A	6	
	f)	Describe working of Netstat and tracerout command with example.	U	5	
Q.6		Attempt any TWO :			16
	a)	Solve following examples i) For a complete restore of a computer failure at noon on Tuesday, how many jobs would be needed if you performed full backups at 6.00 AM, every Wednesday and Saturday and incremental backups at 6.00 AM every other day? Justify your answer. ii) To perform an incremental backup which type of filter and on which attribute of file should be applied. iii) For performing backup daily, weekly and Monthly which hardware will you suggest for a large organization.	A	4	4
	b)	Explain security association database fields. If host <u>x</u> on Network <u>A</u> wants to communicate to host <u>y</u> - on network <u>B</u> with IP Sec; how may security associations are required. Justify your answer.	U + A	6	2
	c)	For following situation identify which utility must be used for troubleshooting. i) Display TCP/IP configuration of a client machine and check its route table. ii) Client unable to find out IP address of network connected PC like yahoo.com, amazon.com. iii) Client want to test communication between self PC and google. Com iv) Client wants to find out complete path a packet travel during transmission from self PC to alibaba.com. Justify your answer.	A	5	2 2 2 2

GOVERNMENT POLYTECHNIC, KOLHAPUR - 416004.

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ODD TERM END EXAM NOV./DEC-2018**EXAM SEAT NO.**

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LEVEL :- THIRD**PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITF303/ITE303****COURSE NAME :- DATA COMMUNICATION****MAX. MARKS : 80 TIME : 3 HRS. DATE :- 07/12/2018****Instruction :-**

- 1) Answers must be written in the main answer book provided. (and supplements if required)
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S	Question Text	R/ U/ A	Co ITF 303	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Draw Analog and digital signal.	R	1	
	b)	Define noise with diagram.	R	2	
	c)	Enlist analog to analog conversion technique.	R	3	
	d)	List different data representation.	R	1	
	e)	State units of period and frequency.	U	2	
	f)	State digital to analog conversion process.	R	3	
Q.2		Attempt any FOUR :			16
	a)	Explain data communication characteristics.	U	1	
	b)	With the help of diagram explain synchronous time division multiplexing.	U	1	
	c)	Illustrate the working of network layer of OSI model.	U	1	
	d)	State the concept bit rate. Solve following example. i) What is bit rate for each of the following signals? 1) A signal in which 1 bit lasts 0.001s. 2) A signal in which 1 bit lasts 2ms. 3) A signal in which 1 bit lasts 20μs.	A	2	
	e)	Describe following terms. i) Wavelength ii) Phase iii) Sine wave iv) Bandwidth.	U	3	
	f)	Explain issues needs to be consider in digital to analog conversion.	U	3	
Q.3		Attempt any TWO :			16
	a)	With diagram Illustrate working of Data Communication system.	U	1	
	b)	Compare frequency division multiplexing with wavelength division multiplexing.	U	3	
	c)	Explain Transmission impairments with example.	U	3	

P.T.O.

Q.4		Attempt any FOUR :			08
	a)	Enlist characteristics of line coding.	U	4	
	b)	Define Manchester coding.	R	4	
	c)	State single bit error.	R	4	
	d)	Define error detection.	U	4	
	e)	State use of checksum.	R	4	
	f)	Enlist protocols for noisy channels.	R	5	
Q.5		Attempt any FOUR :			16
	a)	Write a note on PCM.	R	4	
	b)	Explain DM with modulator and demodulation.	U	4	
	c)	Explain Hamming distance and minimum Hamming distance with example.	A	4	
	d)	Explain lines block codes.	R	4	
	e)	Explain Piggy backing with its advantage.	U	5	
	f)	Explain working of selective repeat protocol.	U	5	
Q.6		Attempt any FOUR :			16
	a)	Explain line coding scheme MLT-3.	R	4	
	b)	Illustrate Parallel transmission with example.	R	4	
	c)	Explain minimum distance for linear block code with example.	A	4	
	d)	Write a note on cyclic code and CRC encoder.	A	4	
	e)	Explain stop and wait protocol for noiseless channel.	R	5	
	f)	Explain flow and error control.	U	5	

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ODD TERM END EXAM NOV/DEC -2018**EXAM SEAT NO.**

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LEVEL: FIRST**PROGRAM: COMMON****COURSE CODE: CCF105/CCE105/X104/R107/0107 COURSE NAME: BASIC MATHEMATICS****MAX. MARKS: 80****TIME: 3 HRS.****DATE: 19/12/2018**

Instruction:-

- 1) Answers must be written in the main answer book provided. (and supplements if required)
- 2) Illustrate your answers with sketches where ever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables will be made available on request.
- 5) Assume and mention suitable additional data necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) **QN**>Question No, **SQN**>Sub-Question No, **R**> Remembering, **U**>Understanding, **A**>Application **CO**>Course outcome

S	Q	Question Text	R	CO	Marks
Q.1	N	Attempt any FOUR		A 105	(08)
	a)	Define n^{th} order determinant.	R	1	
	b)	Resolve into partial fraction $\frac{1}{x^2 - x}$	A	2	
	c)	Define improper fraction with suitable example.	R	2	
	d)	If $A = \begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 4 & 5 \\ 1 & -3 \end{bmatrix}$ find $3A + B$	U	3	
	e)	If $A = \begin{bmatrix} 5 & 4 \\ 4 & 3 \end{bmatrix}$, $B = \begin{bmatrix} -3 & 4 \\ 4 & -5 \end{bmatrix}$ verify that $AB = BA$	U	3	
	f)	Expand using Binominal theorem $\left(\frac{x^2}{2} - \frac{2}{x^2}\right)^4$	A	4	
Q.2		Attempt any FOUR			(16)
	a)	Solve by Cramer's rule $3x + 3y - z = 11$, $2x - y + 2z = 9$, $4x + 3y + 2z = 25$	A	1	
	b)	Solve by Cramer's rule $\frac{1}{p} + \frac{3}{q} = 4$ and $\frac{-2}{p} + \frac{4}{q} = 5$	A	1	
	c)	If $A = \begin{bmatrix} 1 & 2 \\ -2 & 3 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 1 \\ 2 & 3 \end{bmatrix}$, $C = \begin{bmatrix} -3 & 1 \\ 2 & 0 \end{bmatrix}$ verify that $A(B+C) = AB + BC$	U	3	
	d)	If $A = \begin{bmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{bmatrix}$ Find A^{-1} by using Adjoint method.	A	3	
	e)	Resolve into partial fraction $\frac{x+3}{(x^2-1)(x+5)}$	A	2	
	f)	Resolve into partial fraction $\frac{x^3+x}{(x^2-9)}$	A	2	

P.T.O

Q.3	Attempt any FOUR			(16)
a)	Resolve into partial fraction $\frac{x^2}{(x+1)(x-2)^2}$	A	2	
b)	Solve the simultaneous equations by using matrix inversion method. $x + 3y + 3z = 12, x + 4y + 4z = 15, x + 3y + 4z = 13$	A	3	
c)	If $A = \begin{bmatrix} 1 & -3 \\ 2 & -1 \end{bmatrix}_{2 \times 2}$ and $B = \begin{bmatrix} 1 & 0 & 1 \\ 2 & -1 & 3 \end{bmatrix}_{2 \times 3}$ verify that $(AB)^T = B^T A^T$	U	3	
d)	If $A = \begin{bmatrix} 2 & 5 \\ 1 & 3 \end{bmatrix}$, $B = \begin{bmatrix} 3 & -5 \\ -1 & 2 \end{bmatrix}$ show that $AB = BA = I$	U	3	
e)	Prove that $(\sqrt{2} + 1)^5 - (\sqrt{2} - 1)^5 = 82$	U	4	
f)	Expand using Binomial theorem $\left(x - \frac{1}{x}\right)^6$	A	4	
Q.4	Attempt any FOUR			(08)
a)	Express the following angles in radian measures. i) 30° ii) -135°	R	5	
b)	Prove that $\cos(\pi + \theta) = -\cos \theta$	U	6	
c)	Using compound angle formula find $\sin(75^\circ)$	R	6	
d)	If $\sin \alpha = 0.4$ find $\sin(3\alpha)$	R	7	
e)	Express as product : $\cos 4\theta + \cos 8\theta$	R	8	
f)	Find the principal value of $\cos\left[\frac{\pi}{2} - \sin^{-1}\left(\frac{1}{2}\right)\right]$	R	9	
Q.5	Attempt any FOUR			(16)
a)	Prove that $\frac{\cos \theta}{1 - \sin \theta} + \frac{1 - \sin \theta}{\cos \theta} = 2 \sec \theta$	A	5	
b)	Prove that $\cos(A + B) = \cos A \cos B - \sin A \sin B$	A	6	
c)	If $\tan(A + B) = \frac{3}{4}$ and $\tan(A - B) = \frac{77}{36}$ then find $\tan(2A)$	A	6	
d)	Prove that $\sqrt{2 + \sqrt{2}} + 2 \cos 4\theta = 2 \cos \theta$	A	7	
e)	Show that $\tan 3A - \tan 2A - \tan A = \tan 3A \tan 2A \tan A$	A	7	
f)	Show that $\cos 35^\circ + \cos 85^\circ + \cos 155^\circ = 0$	A	8	
Q.6	Attempt any FOUR			(16)
a)	Show that $(\cos A - \cos B)^2 + (\sin A - \sin B)^2 = 4 \sin^2\left(\frac{A - B}{2}\right)$	A	7	
b)	Prove that $\frac{\sin A + 2 \sin 2A + \sin 3A}{\cos A + 2 \cos 2A + \cos 3A} = \tan 2A$	A	8	
c)	Show that $\sin 10^\circ \cdot \sin 30^\circ \cdot \sin 50^\circ \cdot \sin 70^\circ = \frac{1}{16}$	A	8	
d)	Show that $\tan^{-1}\left(\frac{3}{4}\right) + \tan^{-1}\left(\frac{3}{5}\right) - \tan^{-1}\left(\frac{8}{19}\right) = \frac{\pi}{4}$	A	9	
e)	Prove that $\tan^{-1}(x) - \tan^{-1}(y) = \tan^{-1}\left(\frac{x - y}{1 + xy}\right)$, if $x > 0, y > 0$	A	9	
f)	Show that $\sin^{-1}\left(\frac{3}{5}\right) + \cos^{-1}\left(\frac{12}{13}\right) = \sin^{-1}\left(\frac{56}{65}\right)$	U	9	

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EXAM SEAT NO.

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LEVEL :- THIRD

PROGRAM : INFORMATION TECHNOLOGY

COURSE CODE :- ITF306/ITE306

COURSE NAME :- COMPUTER NETWORK

MAX. MARKS : 80 TIME : 3 HRS. DATE :- 27/11/2018

Instruction :-

- 1) Answers must be written in the main answer book provided.(and supplements if required)
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITF 306	Ma rks
Q.1		Attempt any FOUR :			08
	a)	State working of hub and its types.	R	2	
	b)	Enlist different topologies.	R	1	
	c)	Define guided media.	R	3	
	d)	State use of LAN.	R	1	
	e)	Draw co-axial cable.	R	3	
	f)	Define active and passive network.	R	1	
Q.2		Attempt any FOUR :			16
	a)	Develop a hybrid topology for 20 computer's network using star and bus. Draw the structure with labels.	A	1	
	b)	Explain advantages and disadvantage of computer network.	U	1	
	c)	How coaxial and twisted pair cables differ from each other? Explain it making use of real time examples.	A	3	
	d)	Compare OSI & TCP/IP models.	U	2	
	e)	A software development company wants to develop a network for their new branch which has coding department. It needs 20 computers and 2 servers. Select proper networking structure and topology and draw the example network. Justify your answer.	A	1	
	f)	Construct a system of three LANs with four bridges. The bridge (B1 to B4) connect the LANs as follows. i) B1 connects LAN1 and LAN2 ii) B2 connects LAN1 and LAN3 iii) B3 connects LAN2 and LAN3 iv) B4 connects LAN1 and LAN2 and LAN3 Find shortest path for LAN 1 to Lan3.	A	2	
Q.3		Attempt any FOUR :			16
	a)	Draw fiber optic cable structure. Explain its advantages.	U	3	
	b)	Compare working of switches and router.	U	2	
	c)	With neat diagram explain centralized and distributed computing.	U	1	

P.T.O.

	d)	For each of the following four networks Identify the consequences if a connection fails. i) Six devices arranged in a bus topology. ii) Four devices arranged in a bus topology. iii) Five devices arranged in mesh topology. iv) Seven devices arranged in star topology to hub. Justify your answer.	A	1
	e)	Explain infrared with example.	U	3
	f)	With neat diagram explain NIC.	U	2
Q.4		Attempt any FOUR :		08
	a)	State use of Mask.	U	5
	b)	Define super netting	U	5
	c)	State use of RARP protocol	U	5
	d)	Consider, if a packet during transmission is lost or destination is not available how IP. Informed this to the original sender during IP transmission.	A	5
	e)	State use of POP3 protocol.	U	6
	f)	Enlist function provided by IMAP4 protocol.	U	6
Q.5		Attempt any FOUR :		16
	a)	Explain 10BaseT and 10BaseF with diagram.	U	4
	b)	Write working of fast ethernet with example.	A	4
	c)	Explain functions of TCP.	U	5
	d)	Draw and explain UDP Header format.	U	5
	e)	With neat diagram describe TELNET.	U	6
	f)	Draw and explain the architecture of electronic mail.	U	6
Q.6		Attempt any FOUR :		16
	a)	Describe Gigabit ethernet.	U	4
	b)	Explain token Ring with neat diagram.	U	4
	c)	Find out class and netmask for following addresses. Write netid & Hostid 1) 192.168.0.221 2) 21.30.231.12. 3) 125.115.1.152 4) 222.40.1.112	A	5
	d)	Write algorithm for client server socket communication.	A	5
	e)	Describe MIME with its format	U	6
	f)	Explain SMTP message transfer agent protocol.	U	6

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EXAM SEAT NO.

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LEVEL :- FOURTH **PROGRAM : INFORMATION TECHNOLOGY**
COURSE CODE ITE404/IT305

COURSE NAME :- WEB TECHNOLOGY

MAX. MARKS : 80 **TIME : 3 HRS.** **DATE :- 27 / 11/ 2018**

Instruction :-

- 1) Answer to two sections must be written in separate section answer book provided.
- 2) Figure to the right indicate marks.
- 3) Illustrate your answers with sketches wherever necessary.
- 4) Use of non-programmable pocket calculator is permissible.
- 5) Mathematical and other tables shall be made available on request.
- 6) Assume additional suitable data necessary.
- 7) Use of Mobile is strictly prohibited.

QN	S Q N	Section- I	Marks
Q.1		Attempt any FOUR :	08
	a)	Write down use of web application.	
	b)	Write down properties of text box control.	
	c)	What is use of HTMLEncode Method?	
	d)	How we can initialize a session variable?	
	e)	Write a connection string for OLEDB for access.	
	f)	What is ODBC.	
Q.2		Attempt any FOUR :	16
	a)	Write down difference between AD, & ADO.net.	
	b)	Write down steps for configuring data link file.	
	c)	Write a program to implement session and application object.	
	d)	What is assembly? Describe steps to create shared assembly.	
	e)	Write a program to read and write cookies and display the count of cookies.	
	f)	Explain properties and methods of ListBox control.	
Q.3		Attempt any FOUR :	16
	a)	What is IIS? State its purpose.	
	b)	Write a program to add, subtract, mul & div using event.	
	c)	How to remove cookies in ASP net? Give example.	
	d)	Write down steps for creating global.aspx file.	
	e)	Explain try--- catch block with example.	
	f)	Explain use of command object with example.	

P.T.O.

QN		Section- II		Marks
QN	SQN			
Q.4		Attempt any FOUR :		08
	a)	Define data table and data row with syntax.		
	b)	What is transactions?		
	c)	What is authentication?		
	d)	State Features of XML.		
	e)	What is CDONTS objects?		
	f)	Define terms SGML, HTML.		
Q.5		Attempt any FOUR :		16
	a)	How database connectivity achieved in asp.Net/.		
	b)	Explain integrated window authentication.		
	c)	Explain XML as meta language.		
	d)	What is security in Asp.Net? Explain with its types.		
	e)	Write the steps for binding data grid to control step by step.		
	f)	Explain XML document components in details.		
Q.6		Attempt any FOUR :		16
	a)	Explain web.config file with example.		
	b)	How to design a database for any transactions?		
	c)	Explain term navigating in recordset.		
	d)	Why security is important in Asp.Net. Justify your answer with example.		
	e)	Describe creation of XML files using suitable data.		
	f)	Write a note on implementing Basic authentication.		

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EXAM SEAT NO.

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LEVEL :- THIRD PROGRAM : INFORMATION TECHNOLOGY

COURSE CODE :- ITF313/IT209/IET310

COURSE NAME :- SYSTEM PROGRAMMING

MAX. MARKS : 80 TIME : 3 HRS. DATE :- 01/12/2018

Instruction :-

- 1) Answers must be written in the main answer book provided.(and supplements if required)
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITF 313	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Define compiler.	R	1	
	b)	Enlist function of operating system.	A	1	
	c)	Define static binding.	R	2	
	d)	Draw a neat diagram to show front end of toy compiler.	U	2	
	e)	Describe forward reference?	A	3	
	f)	State macro with suitable example.	A	4	
Q.2		Attempt any FOUR :			16
	a)	Define relocation. List four tasks done by relocating loaders.	R	1	
	b)	Differentiate any 4 point between problem oriented and procedure oriented language.	U	2	
	c)	Explain the term program translation. State the characteristics of program translation model.	U	2	
	d)	Explain the pass structure of assembler.	U	3	
	e)	Describe over view of two pass assembly.	U	5	
	f)	Explain syntax of macro definition and macro call with example.	U	4	
Q.3		Attempt any FOUR :			16
	a)	State function of following i) Assembler ii) compiler iii) Loader iv) Interpreter.	U	2	
	b)	Describe the steps involved in program interpretation.	U	2	
	c)	Explain intermediate code of expression.	U	2	
	d)	What is forward reference? Explain how problem of forward reference is resolve in single pass assemblers?	U	3	
	e)	Describe in detail design specification of an assembler.	U	3	
	f)	Explain flow of control during expansion in macro expansion.	A	4	

P.T.O.

Q.4	Attempt any FOUR :			08
	a) Build format for quadruple.	A	5	
	b) Define side effect.	R	5	
	c) Define program relocation.	R	5	
	d) State two aspects of VI functionalities.	U	6	
	e) List fundamental functions in editing.	R	6	
	f) Draw a schematic of S/W tool using interpretation Technique.	A	6	
Q.5	Attempt any FOUR :			16
	a) Explain given features of compilation. i) Scope rules ii) Control structures	U	5	
	b) Explain static memory allocation.	U	5	
	c) Develop control structure compilation in compilers.	A	5	
	d) Draw a schematic of program execution and explain its steps.	A	5	
	e) Explain program preprocessing & instrumentation.	U	6	
	f) List different text editors and draw a schematic of a simple editor.	A	6	
Q.6	Attempt any TWO :			16
	a) Explain any four optimizing transformations, indetail.	U	5	
	b) Explain object module & illustrate it with the help of an assembly program.	U	5	
	c) i) Write facilities provided by debug monitor for dynamic debugging. ii) Write sequence of steps involved in debugging of a program.	U	6	

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ODD TERM END EXAM NOV/DEC -2018**EXAM SEAT NO.**

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LEVEL: FIRST**PROGRAM: INFORMATION TECHNOLOGY****COURSE CODE: ITF102/ITE104****COURSE NAME: C PROGRAMMING.****MAX. MARKS: 80****TIME: 3 HRS.****DATE: 01/12/2018****Instruction:-**

- 1) Answers must be written in the main answer book provided. (and supplements if required)
- 2) Illustrate your answers with sketches where ever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables will be made available on request.
- 5) Assume and mention suitable additional data necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) **QN**>Question No, **SQN**>Sub-Question No, **R**> Remembering, **U**>Understanding, **A**>Application

QN	S. Q. N	Question Text	Cognition Level R/U/A	Co Code ITF 102	Marks
Q.1		Attempt any FOUR			(08)
	a)	Define identifiers & keywords ?	R	1	
	b)	State use of functions : i) gets(), ii) puts()	R	1	
	c)	Write a syntax of simple if statement.	R	2	
	d)	Write syntax & flow chart of switch statement.	R	2	
	e)	Define function.	U	3	
	f)	What is formal parameter ?	R	3	
Q.2		Attempt any FOUR			(16)
	a)	Explain the basic structure of C program.	U	1	
	b)	Explain Arithmetic operators in details with example.	U	1	
	c)	Explain for loop in detail with example.	A	2	
	d)	Write a C program to print largest of three number using nested if _ else statement.	A	2	
	e)	Explain the concept of recursion with example.	A	3	
	f)	Explain call by value with example.	A	3	
Q.3		Attempt any FOUR			(16)
	a)	What are variables ? Explain syntax for declaration of variables.	R	1	
	b)	Explain conditional operator in detail with example.	U	1	
	c)	Explain scanf() function with its syntax in detail with example.	A	1	
	d)	Write a program to display Fibonacci series.	A	3	
	e)	What are benefits of user defined functions ? Explain.	U	3	

P.T.O.

f)	Write a program to calculate area & perimeter of circle using functions.	A	3	
Q.4	Attempt any FOUR			(08)
a)	Define array and give its example.	R	5	
b)	State difference between one dimensional and two dimensional array.	R	3	
c)	State the use and syntax of strcpy() function.	R	6	
d)	Define structure.	R	1	
e)	State any four advantages of pointers.	R	7	
f)	Write syntax of structure.	R	7	
Q.5	Attempt any FOUR			(16)
a)	Declare and initialize two dimensional array.	R	5	
b)	Explain how to pass arrays to a function with the help of example.	U	5	
c)	Explain how to calculate length of string without using string function.	U	6	
d)	Write a program to determine whether the entered string is palindrome or not.	A	6	
e)	Explain how to access member of structure in C.	U	7	
f)	Write meaning of following statements with reference to pointer. int *a, b; b=20; *a=b; A=&b;	A	7	
Q.6	Attempt any FOUR			(16)
a)	Write a program for addition of two 3 x 3 matrix.	A	5	
b)	Write a program to copy the elements of one array into another array.	A	3	
c)	Explain any four string handling function.	U	6	
d)	Write a program to compare two string using string handling function.	A	6	
e)	Explain how structure is different from array.	U	7	
f)	Write a program to declare structure 'book' having data members are book name, book id, book price. Accept this data for three books and display it.	A	7	

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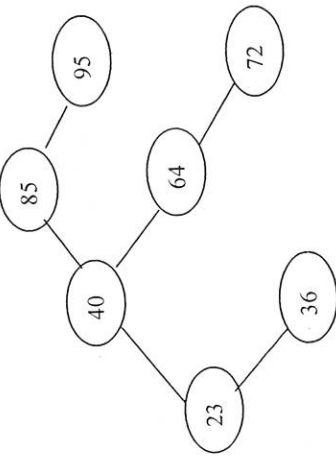
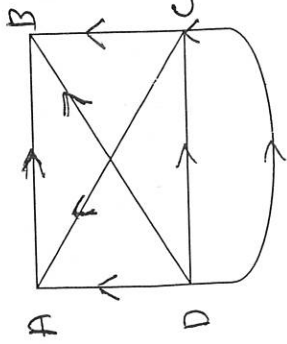
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LEVEL :- THIRD**PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITF310/ITE403****COURSE NAME :- DATA STRUCTURE****MAX. MARKS : 80 TIME : 3 HRS. DATE :- 30/ 11 / 2018****Instruction :-**

- 1) Answers must be written in the main answer book provided.(and supplements if required)
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITF 310	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Define the term Big O.	R	1	
	b)	Define sorting.	R	2	
	c)	Enlist types of queue.	R	3	
	d)	Write algorithm for Binary Search technique.	U	2	
	e)	Explain various operations on Data structure.	U	1	
	f)	Find the conditions to be checked while doing PUSH and POP operations on stack.	R	3	
Q.2		Attempt any FOUR :			16
	a)	Explain insertion sort with example.	U	2	
	b)	Write a program to insert an element in a priority queue.	A	3	
	c)	Differentiate between Direct and Indirect recursion.	U	1	
	d)	Write various application of queue.	R	3	
	e)	Convert following equation in prefix and postfix form i) $(A+B-C) / (D * E) + F$ ii) $(A * B + (C / D)) - F$	A	3	
	f)	Explain primitive operations on stack.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Write a C program to sort an integer array using quick sort.	A	2	
	b)	Explain linear search technique algorithm and example.	U	2	
	c)	Explain with example operation on stack.	U	3	
	d)	Explain FLFO structure of queue with example.	U	3	
	e)	Define complexity and its type.	R	1	
	f)	Write a program for merge sort.	A	2	

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Q.4	Attempt any FOUR :			08
	a) Explain the term – linear linked list.	R	4	
	b) State use of hashing	U	5	
	c) Define i) ancestor ii) depth with respect to tree.	R	4	
	d) List important features of a good hashing function.	R	5	
	e) Define collision State how collision resolution done by linear probing.	U	5	
	f) Find hash address for record search keys – 7653 and 5439 using folding method.	A	5	
Q.5	Attempt any FOUR :			16
	a) Write algorithm to implement following operations on linear list i) insertion at beginning. ii) Traversing list.	A	4	
	b) Define i) weighted graph ii) directed graph iii) complete graph iv) connected graph	R	5	
	c) Explain deletion operation on a binary search tree.	U	4	
	d) i) State difference between tree and graph. ii) Write preorder and postorder traversals for following tree	U A	4 4	
				
	e) What is circular list? Explain any two operations on circular list.	U	4	
	f) Explain Warshall's shortest path algorithm for a graph.	U	5	
				16
Q.6	Attempt any TWO :			
	a) Write a C/C++ program to implement stack using linear list.	A	4	
	b) i) Explain Breadth First search traversal in a graph with example. ii) Explain midsquare method of hash function with example.	U A	5 5	
	c) i) List applications of tree ii) Draw binary trees for following numbers 70,40,80,88,50,72,20,84,45 iii) Consider following graph	R A A	5 4 5	
				
	Find 1) indeg (c) 2) outdeg (c) 3) Adjacency matrix.			
