LEVEL : - FOURTH   PROGRAM : INFORMATION TECHNOLOGY
COURSE CODE :- ITE410
COURSE NAME :- PHP
MAX. MARKS : 80   TIME : 3 HRS.   DATE :- 27 / 04 / 2016

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.

Section – I	Marks

Q.1   Attempt any **FOUR**   (08)

   a) What is PHP?

   b) Enlist common uses of PHP.

   c) State use of static HTML.

   d) Define predefine variable.

   e) What is use of preg-match ( )?

   f) Define upwords ( ) string function

Q.2   Attempt any **FOUR**   (16)

   a) Explain following features of PHP & MySQL

- Cost
- Ease of use
- HTML embeddendness
- Cross platform compatibility

   b) How to install mamp and explain use of it?

   c) Explain testing of PHP installation on Windows and Linux.

   d) Explain code cohabitation in PHP with example.

   e) Write a note on logical operator with example.

   f) Explain how to redirect to new location in PHP? With example.

Q.3   Attempt any **FOUR**   (16)

   a) Write a note on histroy of MySQL & PHP.

   b) Explain client side and server side scripting.

   c) Describe PHP variable and its value types.

   d) Write a PHP program for creatign calculation form, submitting form and getting result.

P.T.O.

LEVEL :- **THIRD**   PROGRAM : **INFORMATION TECHNOLOGY**
COURSE CODE :- **ITE306/IF207**
COURSE NAME :- **COMPUTER NETWORK**
MAX. MARKS : 80   TIME : **3 HRS.**   DATE :- **27 / 04 / 2016**

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.

Marks

Q.1   Attempt any **FOUR**   (08)

a)   What is gateway?

b)   Define ground propogation with diagram.

c)   What are the applications of co-axial cable?

d)   Define guided media with example.

e)   What is passive hub?

f)   Draw ATM cell format.

Q.2   Attempt any **FOUR**   (16)

a)   Explain mesh topoloty with diagram.

b)   Describe client-server network model with daigram.

c)   Describe active and passive network.

d)   Compare OSI reference model with TCP/IP model.

e)   Explain architecture of ATM with its virtual connections.

f)   Explain Co-axial cable with diagram.

Q.3   Attempt any **FOUR**   (16)

a)   Enlist the advantages and disadvantages of computer networks.

b)   Describe peer to peer network with diagram

c)   Explain point To point network and multipoint network.

d)   Enlist the application layer protocols. Explai any one in brief.

e)   Explain application layer and transport layer of TCP/IP model.

f)   Discuss about radio waves in brief.   P.T.O.

Q.4   Attempt any **FOUR**   (08)

    a)   What is role of web browser?

    b)   Define authentication.

    c)   Enlist ICMP message types.

    d)   Which information is contained in a URL?

    e)   Enlist HTTP request methods.

    f)   State goals of Gigabit Ethernet.

Q.5   Attempt any **FOUR**   (16)

    a)   Explain symmetric key cryptography technique.

    b)   What is role of Bootstrap Protocol?

    c)   Explain 10 Base-T Ethernet implementation with neat diagram.

    d)   Draw and explain network security model.

    e)   How does substitution cipher work? Give example.

    f)   Explain role of manager and agent in SNMP.

Q.6   Attempt any **TWO**   (16)

    a)   Draw 802.3 MAC frame format. Explain significance of fields in it.

    b)   Explain operation of UDP.

    c)   State and explain active security attacks.

****

LEVEL : - **FIRST** PROGRAM : **EE/IE/IT/E & TC**
COURSE CODE :- **CCE104/X103/X109/R105/R106**
COURSE NAME :- **ENGINEERING CHEMISTRY**
MAX. MARKS : **80** TIME : **3 HRS.** DATE :- **28 / 04 / 2016**

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.

Marks

Q.1 Attempt any **FOUR** (08)

a) Why Cr & cu shows anamolous behaviour in electronic configuration?
b) State Hund's rule of maximum multiplicity.
c) Distinguish between atoms and ions (any two points)
d) Why the galvanized containers are not used for storage of food stuffs?
e) Give the disadvantages of hard water when it is used for sugar industry.
f) Define i) Scale ii) pH of solution.

Q.2 Attempt any **FOUR** (16)

a) Describe the formation of MgO molecule with diagram & name the type of bonding.
b) Write orbital electronic configuration of following elements.
   $_{12}Mg^{24}$, $_{19}k^{39}$, $_{7}N^{14}$, $_{17}Cl^{35}$
c) What are the different types of oxide films? Explain which oxide film is more protective.
d) Draw the diagram. Give two chemical reactions in regeneration of ion exchange process.
e) State and explain four causes of scale formation in boiler.
f) Define Sterilization,explain by using bleaching powder.

Q.3 Attempt any **FOUR** (16)

a) What is electroplating? Explain with suitable example.
b) Define degree of ionization. Explain the Factors affecting degree of ionization.
c) Describe the process of metal spraying for protection of metal from corrosion.
d) Distinguish between galvanising and tinning. (any four points)
e) Define pH. Draw the pH scale. What is the pH of i) Neutral Solution?
   ii) Extremely acidic solution? iii) Extremely basic solution.
f) Write the disadvantages of hard water in drinking and cooking use.

P.T.O.

Q.4   Attempt any **FOUR**   (08)

    a) What is closed circuit voltage and open circuit voltage?

    b) Give the two points difference between primary cell and secondary cell.

    c) Define minerals and Ores.

    d) Give the important Ores of 'Cu' metal.

    e) List the methods of concentration of Ores.

    f) Define semiconductor. Give example.

Q.5   Attempt any **FOUR**   (16)

    a) Explain with diagram working of Hydrogen-Oxygen fuel cell.

    b) Give the difference between calcination and Roasting.

    c) How Bessemerisation of 'Cu' is carried out in Bessmer converter?

    d) Define alloy. Explain the purposes of alloy formation. (any Three)

    e) Give the properties and uses of Germenium as semiconductor.

    f) Give the properties and uses of glass wool.

Q.6   Attempt any **FOUR**   (16)

    a) Write a note on Reserve Batteries and solar cell.

    b) Give four physical properties and uses of 'Cu' metal.

    c) How electrorefining of Blister 'Cu' is carried out?

    d) Give the composition, properties and uses of Rose metal.

    e) Define adhesive. Give characteristics of good adhesive.

    f) Give the properties and uses of Teflon plastic.

****

LEVEL : - **FIRST** PROGRAM : **COMMON**
COURSE CODE :- **CCE110/X111/R112/0116**
COURSE NAME :- **APPLIED MECHANICS**
MAX. MARKS : **80** TIME : **3 HRS.** DATE :- **26 / 04 / 2016**

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.

Marks

Q.1 Attempt any **FOUR** (08)

   a) Define equilibrium and state the relation between resultant force and equilibrant force.
   b) State principle of Transmissibility.
   c) Define Resolution of force.
   d) State graphical conditions of equilibrium for parallel force system.
   e) Define angle of repose.
   f) If angle of repose is 30^0, calculate coefficient of friction.

Q.2 Attempt any **FOUR** (16)

   a) A force of 100KN makes an angle of 135^0 with the horizontal. Find its orthogonal components.
   b) Calculate the total moment about point 'A' for the force system shown in fig.
   c) Find resultant force of concurrent force system graphically.
   d) Find support reaction of a given beam as shown in figure by analytical method.
   e) A body resting on a rough horizontal plane is on the point of moving by a pull of 22N acting 30^0 inclined to horizontal. Find the weight of body and coefficient of friction.

   f) A body of weight 400N is placed on plane inclined at an angle of 18^0 with the horizontal. If $\mu = 0.27$, find the value of the force to be applied parallel to the plane just to move the body up the plane.

Q.3 Attempt any **FOUR** (16)

   a) Two point loads are acting on beam as shown in fig. The self weight of beam is 2 KN/m. Using graphical method. Find support reactions.

   b) A sphere of diameter 1.2m and weighing 1800N rest against two smooth planes inclined at 60^0 and 45^0 respectively. Determine reactions offered by the planes.

   c) Determine analytically, the resultant of coplanar parallel forces acting vertically upwards. 40N, 20N at 30mm, 30N of 50mm and 60N at 70mm. All distances are taken from first force towards right. PTO

d) Four forces 20N, 15N, 30N and 25N are acting at $0^0, 60^0, 90^0$ and 150^0 from X-axis taken in order. Find resultant by analytical method.

e) Two concurrent forces of magnitude 100N have their resultant as 100N. Calculate the angle between the forces.

f) Explain Law of frictions.

Q.4 Attempt any **FOUR**   (08)

a) Define centriod of plain figure.
b) State or locate the centre of semicircle and semisphere.
c) State law of conservation of momentum.
d) State Newton's 1st law of motion.
e) State equation for angular motion and given meaning of each term.
f) Define power and its S.I. unit

Q.5 Attempt any **FOUR**   (16)

a) Find the centre of gravity of an equal angle section 100 X 100 X10mm and locate on figure.

b) Find the centriod of shaded area as shown figure.

c) A body falling freely under gravity passes two points 9m aparts vertically in 0.2sec. Find from what height above the upper point did it start to fall?

d) A bullet weighing 3N leaves the barrel of a rifle with a muzzle velocity of 750m/s. If the length of parallel is 100cm. Find the impulse and impulsive force.

e) A particle is rotating at 300 RPM. If the radius of rotation is 1.5m calculate
   i) angular Velocity ii) Linear velocity.

f) The shaft of an electric motor rotates at 1500 rpm at a particular instant. In 8 second the speed uniformly decreases to 500 rpm. Find the angular retardation.
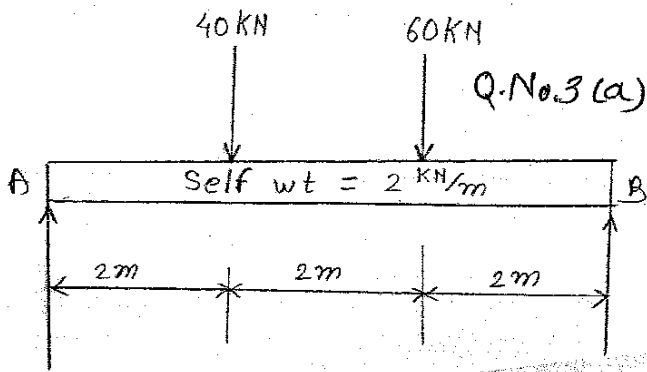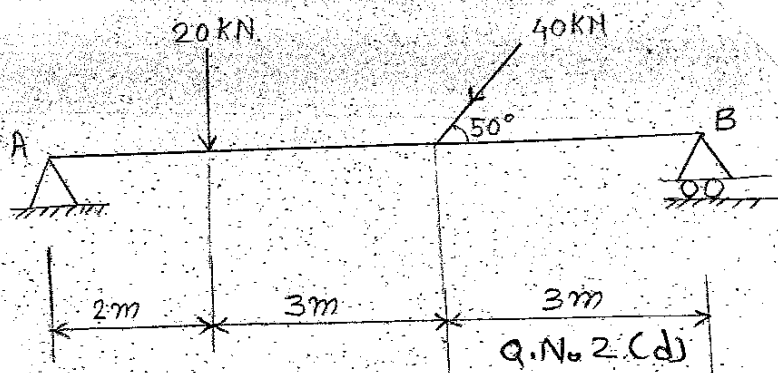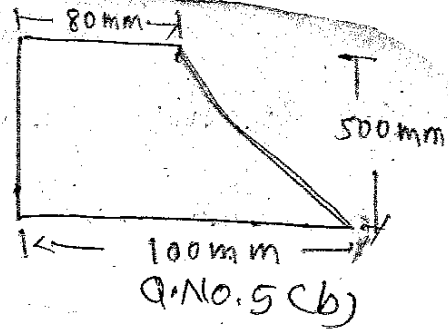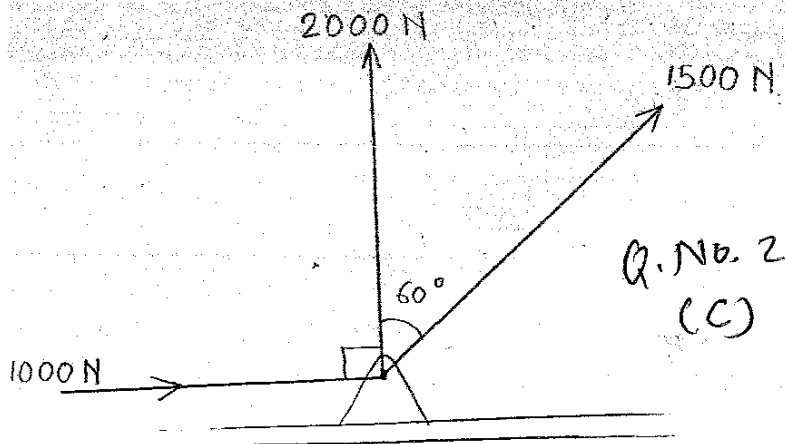
Q.6 Attempt any **FOUR**   (16)
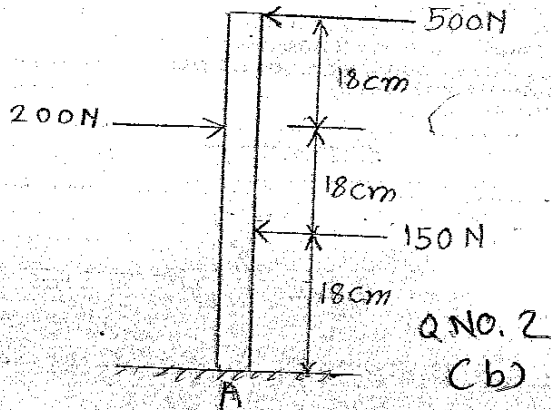
a) How many litres of water can be raised in 10 minutes to a height of 30m by means of pump of 2.5KW power and efficiency 80%?

b) Water having volume of 1500 liters is lifted to a height of 6m and is delivered at velocity of 4m/sec. What is the energy possessed by water?

c) A machine having following observation. Find the law of machine.

Load (N)	100	200	300	400	500	600
Effort (N)	10	18	25	28	33	39

d) For a lifting M/C UR=50.6. An effort of 90N lifts load of 1800N and an effort of 135N requires a load of 3150N. Determine law of M/C and Maximum efficiency of machine.

e) Define i) Mechanical Advantages ii) Velocity Ratio
         iii) Efficiency   iv) Reversible machine.

f) Draw the nature of graphs for a lifting machine.
   i) Load Vs effort   ii) Load Vs idea effort.   iii) Load Vs Mechanical Advantage
   iv) Load Vs effort lost in friction.

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0

500N

18cm

200N

18cm

150 N

18cm

Q.NO. 2
(b)

A

2000 N

1500 N

60°

Q.No. 2
(C)

1000 N

80mm

500mm

100mm

Q.No.5(b)

20KN

40KN

A

50°

B

2m

3m

3m

Q.No 2.(d)

40KN

60KN

Q.No.3(a)

A

Self wt = 2 $^{KN}/_m$

B

2m

2m

2m

LEVEL :- **THIRD**   PROGRAM : **INFORMATION TECHNOLOGY**
COURSE CODE :- **ITE310/IF209/IT209**
COURSE NAME :- **SYSTEM PROGRAMMING**
MAX. MARKS : 80   TIME : 3 HRS.   DATE :- **26 / 04 / 2016**

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.

Marks

Q.1   Attempt any **FOUR**   (08)

   a) Enlist the components of programming system.

   b) Discuss formal system.

   c) Define procedure oriented languages.

   d) What is interpreter?

   e) Define Macro call.

   f) Define assembly language system statement format.

Q.2   Attempt any **FOUR**   (16)

   a) Discuss operating system facilities.

   b) What is program execution?

   c) Discuss lexical, syntax and semantic rules.

   d) Explain analysis phase of assembler.

   e) Discuss Pass-I of assembler.

   f) What are Macro facilities?

Q.3   Attempt any **FOUR**   (16)

   a) Discuss evolution of operating system.

   b) Discuss front end of Toy compiler.

   c) What are types of binding times?

   d) What are the advantages of assembly language statement?

   e) Explain simple assembly scheme with its design specification.

   f) Discuss nested macro with example.

P.T.O.

Q.4   Attempt any **FOUR**   (08)

   a) Which are the aspects of compilation?

   b) What is program relocation?

   c) What is mean by dynamic allocation?

   d) Draw semantic of programming environment.

   e) Explain steps involved in program relocation.

   f) What is use of screen editor?

Q.5   Attempt any **FOUR**   (16)

   a) What is mean by call by value and call by value result?

   b) Write use of EXTRN and ENTRY statement.

   c) Explain role of compiler in compilation of function call.

   d) Write steps involved in dynamic debugging of program.

   e) What are the uses of Interpreter? Explain it.

   f) State Features of word processor.

Q.6   Attempt any **FOUR**   (16)

   a) Explain working of toy interpreter.

   b) How does linker resolve external reference in program?

   c) Write a scope rules for variable with example.

   d) Describe programming environment.

   e) Explain process of linking with example.

   f) Which software tools are used in program design and coding?

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EVEN TERM END EXAM APRIL / MAY 2016

EXAM SEAT NO.

LEVEL : - FIFTH   PROGRAM : INFROMATION TECHNOLOGY
COURSE CODE :- ITE503
COURSE NAME :- MANAGEMENT INFORMATION SYSTEM
MAX. MARKS : 80   TIME : 3 HRS.   DATE :- 25 / 04 / 2016

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.

Section – I	Marks

Q.1   Attempt any FOUR (08)

a) What is product strategy?

b) Define Decision.

c) What is long range planning?

d) Draw generalized model of system.

e) What is What IF analysis?

f) Define system.

Q.2   Attempt any FOUR (16)

a) What are the impacts of MIS?

b) Explain any four dimensions of planning.

c) Explain behavioral concept in Decision making.

d) Write a short note on modeling.

e) What are the problems in making Rational Decision?

f) What are classes of system? Explain any two.

Q.3   Attempt any FOUR (16)

a) Explain the conceptual view of MIS.

b) What are type of strategy? Explain any two.

c) Explain decision making system types with example.

d) What are the advantages of short range planning with the help of budget?

e) Write a short note on classification of Information.

f) What is need for system analysis? Explain.

P.T.O.

Q.4   Attempt any **FOUR**   (08)

    a)   What are the MIS goals and objectives?

    b)   What is the architecture of MIS?

    c)   What is Re-Engineering?

    d)   What is unit testing?

    e)   What is the objective of personnel management?

    f)   What are the input transaction documents in financial management?

Q.5   Attempt any **FOUR**   (16)

    a)   Write a short note on knowledge and decision support information.

    b)   Write a short note on business process Re-Engineering.

    c)   Explain Relevance of Information Technology in Business process Re-engineering.

    d)   Write a short note on Data processing.

    e)   What activities are comprised by software quality assurance?

    f)   Explain personnel management.

Q.6   Attempt any **FOUR**   (16)

    a)   What are the Features contributing to success?

    b)   Explain process model of organization in detail.

    c)   Explain value stream model of organization in detail.

    d)   Write a short note on Application processing.

    e)   What is Information system processing? Explain.

    f)   Write a short note in financial management.

****

LEVEL :- FOURTH PROGRAM : **INFORMATION TECHNOLOGY**

COURSE CODE :- **ITE402/IF302/IT302**

COURSE NAME :- **SOFTWARE ENGINEERING**

MAX. MARKS : 80 TIME : 3 HRS. DATE :- **25 / 04 / 2016**

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.

Section – I	Marks

Q.1 Attempt any **FOUR**   (08)

 a) List different software applications.

 b) What is software engineering?

 c) Draw build and fix model.

 d) Explain user and system requirements.

 e) Enlist types of requirements.

 f) What is risk in software risk management?

Q.2 Attempt any **FOUR**   (16)

 a) Explain the changing nature of software.

 b) Draw and explain waterfall model in detail.

 c) Explain crucial steps for requirement engineering.

 d) Explain the term interviews in requirements elicitation.

 e) List and explain typical software risks.

 f) Explain the term LOC in size estimation.

Q.3 Attempt any **FOUR**   (16)

 a) Explain program versus software.

 b) Explain RAD model with diagram.

 c) Explain spiral model with diagram.

 d) Explain requirement analysis steps with diagram.

 e) List and explain characteristics of a good SRS.

 f) Explain risk management activities with diagram.

PTO,

Q.4   Attempt any FOUR   (08)

   a) Write the objectives of design.

   b) Enlist types of coupling.

   c) What is testing?

   d) List the features of software quality.

   e) What is software maintenance?

   f) What is ripple effect?

Q.5   Attempt any FOUR   (16)

   a) Explain module coupling in software design.

   b) Explain conceptual and technical designs.

   c) Write a short note on integration testing.

   d) Explain software quality features,.

   e) Describe maintenance process with diagram.

   f) Explain any four categories of maintenance in detail.

Q.6   Attempt any FOUR   (16)

   a) Explain module cohesion with its types.

   b) Differentiate between Bottom-up and Top-down design (any four point)

   c) Write a note on syntactic and semantic model.

   d) Explain system testing.

   e) Define following terminologies i) Error ii) Mistake iii) Bugs iv) failure.

   f) Explain potential solution to maintenance problem

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EXAM SEAT NO.

LEVEL: **THIRD**   PROGRAM: **INFORMATION TECHNOLOGY**
COURSE CODE: **ITE305/IF206/IT206**   COURSE NAME: **DATABASE MANAGEMENT SYSTEM**
MAX. MARKS: **80**   TIME: **3 HRS.**   DATE: **06/05/2016**

Instruction:-
1) Answers must be written in the main answer book provided. (and supplements if required)
2) Figure to the right indicates 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.

Marks

Q.1 Attempt any **FOUR** **(08)**

    a) Enlist various mapping cardinalities used in database.

    b) Explain the term entity set.

    c) Explain select operations in relational algebra.

    d) Explain the term query language.

    e) Define stored procedure.

    f) Explain the terms- Read only view and updatable view.

Q.2 Attempt any **FOUR** **(16)**

    a) Explain the purpose of using database system?

    b) Explain Cartesian product operation in relational algebra.

    c) Write & explain the syntax for creating view.

    d) What does trigger block consist of?

    e) What are advantages of PL/SQL over SQL?

    f) Explain use of logical operators in SQL.

Q.3 Attempt any **FOUR** **(16)**

    a) Enlist & explain the functions of database administrator.

    b) Explain entity relationship model with example.

    c) Explain the concept of join with example.

P.T.O

d) Explain the syntax of following SQL commands with examples:

    i)   Select

    ii)   Insert

    iii) Alter

    iv) Update

e) State & explain types of trigger.

f) Draw & explain the block structure of PL/SQL.

Q.4   Attempt any **FOUR**   **(08)**

a) State functional dependency.

b) Define a term validation.

c) What is mean by recovery?

d) List advantages of normalization.

e) What is block in data access.

f) Define a term Recoverability.

Q.5   Attempt any **FOUR**   **(16)**

a) Explain the concept of transaction.

b) Differentiate between 2NF & 3NF.

c) Explain serializability with its any one type.

d) Write pit fall of lock based protocol.

e) Explain log based recovery.

f) How lock based protocol works.

Q.6   Attempt any **FOUR**   **(16)**

a) Compare multivalved dependency with functional dependency.

b) Explain concurrent execution with example.

c) What are the 'check points' in recovery system?

d) Explain steps involved in query processing with suitable diagram.

e) Explain deferred database modification.

f) Write a note on validation based protocol.

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LEVEL : - **SECOND** PROGRAM : **COMMON**
COURSE CODE :- **CCE202/0101/0102**
COURSE NAME :- **COMMUNICATION SKILL**
MAX. MARKS : 40   TIME : **2 HRS.**   DATE :- **06 / 05 / 2016**

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.

Marks

Q.1   Attempt any **FOUR** (Answer the following questions in 3-5 sentences)   (08)

a) Draw a well labelled diagam illustrating the process of communication.

b) Enlist any four examples in which written communication is used.

c) Enlist four advantages of oral communication.

d) Explain two principles of effective written communication.

e) Define Haptics.

f) Enlist any four advantages of OHP.

Q.2   Attempt any **FOUR** (Answer the following question in 12-14 sentences)   (16)

a) State i) Mechanical Barrier ii) Organizational Barriers.

b) Explain with sutiable example i)Upward communication.ii)Horizontal communication.

c) Enlist four tips for prepared speech.

d) State any four precautions one should take when making a presentation.

e) State and explain any four interview techniques.

f) State the guidelines on preparing presentation i) Thinking about audience ii) Good slide show design.

Q.3   Attempt any **TWO**   (16)

a) Explain types of communication. i) Verbal- Non-verbal ii) Oral – Written.

b) Following is the opinion of 100 parents about the new pattern of board exam of students X. In this problem the data is given in %.

i) In favour of new pattern – 60 ii) Against new pattern – 30 iii) No comments -10
Prepare a pie-chart.

c) Write an application along with your resume to Modern Automobile Factory, Pune-8 for the post of Junior Engineer.

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EVEN TERM END EXAM APRIL / MAY 2016
EXAM SEAT NO.

LEVEL : - FIFTH   PROGRAM : INFORMATION TECHNOLOGY
COURSE CODE :- ITE504
COURSE NAME :- MULTIMEDIA TECHNIQUES
MAX. MARKS : 80   TIME : 3 HRS.   DATE :- 07 / 05 / 2016

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.

Section – I	Marks

Q.1 Attempt any FOUR (08)

a) What is clipart?

b) What is Acoustics?

c) Enlist Multimedia system sound.

d) Enlist image file formats.

e) State features of sound editing tools.

f) What is function of OCR software?

Q.2 Attempt any FOUR (16)

a) What are the features provided by painting and drawing tools?

b) Write a short note on Messaging and chatting.

c) Write a short note on Digital Video.

d) Define the term Editing Digital Recording.

e) Explain various color palettes available in computers.

f) Write a short note on NTSC and ATSC DTV broadcast standard.

Q.3 Attempt any FOUR (16)

a) Write down the features of Image editing tools.

b) Write a note on video conferencing and voice mails.

c) Write short note on MPEG.

d) Explain cell animation technique.

e) Write a short note on digital audio.

f) Explain following terms i) color Paletters ii) Dithering.

Q.4   Attempt any **FOUR**   (08)

    a) What is mean by just in time tuining?

    b) List uses of video conferencing.

    c) Which are the multimedia Broad band applictions?

    d) List down the activities performed by multimedia in office.

    e) Define object request broker.

    f) List the common fecilities provided by object management group.

Q.5   Attempt any **FOUR**   (16)

    a) Write a note on new retail applications with example.

    b) What are the qualitative benefits of multimedia in training?

    c) Explain binding of messages to methods with example.

    d) What are the different kinds of objects used in multimedia?

    e) Write a note on copyright.

    f) Explain Electronic trading.

Q.6   Attempt any **TWO**   (16)

    a) What are the methodologies used in developing multimedia application?

    b) Explain object technology in detail.

    c) Write a note on Intellectual property rights and patents.

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GOVERNMENT POLYTECHNIC, KOLHAPUR – 416004.

(An Autonomous Institute of Govt. Of Maharashtra)

EVEN TERM END EXAM APRIL/MAY. -2016

EXAM SEAT NO.

LEVEL : - **THIRD**   PROGRAM : **INFORMATION TECHNOLOGY**
COURSE CODE :- **ITE307/IF208**
COURSE NAME :- **OPERATING SYSTEM**
MAX. MARKS : **80**   TIME : **3 HRS.**   DATE :- **09 / 05 / 2016**

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.

Marks

Q.1   Attempt any FOUR   (08)

a) What is operating system?

b) What is distributed system?

c) Enlist any four services provided by operating system.

d) List down any four systems call related to memory management.

e) What is thread?

f) Define term scheduler.

Q.2   Attempt any FOUR   (16)

a) Explain Batch processing operating system.

b) Differentiate any four point difference between multiprogramming and multitasking operating system.

c) Draw and explain microkernel operating system structure.

d) Explain file management in details.

e) Draw and explain process control (PCB) block in detail.

f) List multithreading model. Explain any one with suitable diagram

Q.3   Attempt any FOUR   (16)

a) Write a note on parallel system.

b) Describe functions of an operating system.

c) Explain layered approach of operating system

d) Explain system booting in detail.

e) Explain the different process states with the help of state diagram.

f) Write a note on context switch.

P.T.O,

Q.4   Attempt any **FOUR**   (08)

   a) Define Deadlock.

   b) What is swapping?

   c) List different file attributes.

   d) Define Relative path with example.

   e) What is Interrupt?

   f) What is Buffering?

Q.5   Attempt any **FOUR**   (16)

   a) Describe steps in DMA transfer.

   b) Explain contigous Allocation method of Diskspace.

   c) Explain pasing with example.

   d) Discuss Logical V/S physical address space.

   e) Explain Round robin scheduling algorithm with example.

   f) What are the methods of handling deadlock?

Q.6   Attempt any **FOUR**   (16)

   a) Discuss various methods to recover deadlocks.

   b) Explain FCFS scheduling algorithm with example.

   c) Explain segmentation.

   d) Describe following methods i) Sequential Access. Ii) Direct Access.

   e) Draw and explain typical bus structure in CPU.

   f) Explain the term Network Devices.

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LEVEL :- FOURTH   PROGRAM : INFORMATION TECHNOLOGY
COURSE CODE :- ITE401/IF301/IT301
COURSE NAME :- NETWORK ADMINISTRATION
MAX. MARKS : 80   TIME : 3 HRS.   DATE :- 09 / 05 / 2016

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.

Section – I	Marks

Q.1 Attempt any **FOUR**   (08)

     a) List any four networks medium.

     b) Which are different network speed for ethernets?

     c) Draw diagram of domain name space?

     d) State use of DHCP?

     e) What is mean by static IP configuration protocal?

     f) List DHCP message types.

Q.2 Attempt any **FOUR**   (16)

     a) Explain needs of network design overview.

     b) Explain ISDN with diagram.

     c) Explain indetail primary and secondary servers.

     d) What is mean by root server and explain its types?

     e) How to install active directory in Windows server 2003?

     f) Explain in detail LDAP.

Q.3 Attempt any **FOUR**   (16)

     a) Explain how to select computer for designing home or small office?

     b) Explain IP address assignment with diagram.

     c) Explain DHCP options.

     d) Explain resolver and its type.

     e) Explain question record of DNS with diagram.

     f) Write note on active directory architecture.

P.T.O.

Q.4   Attempt any **FOUR**   (08)

  a) List any two advantages of media rotation.

  b) What is mean by backup widnow?

  c) Define incremental backups.

  d) What is output of Ping command?

  e) List the advantages of IP Sec.

  f) Define IP security.

Q.5   Attempt any **FOUR**   (16)

  a) Explain logging and cataloging in detail.

  b) What is mean by driver update and software updates?

  c) Describe NET config and NET DIAG as utilities.

  d) Explain IP config TCP/IP utilities.

  e) Explain tunnel mode of IP Sec.

  f) Write note on IKE protocol and security association. (SA)

Q.6   Attempt any **TWO**   (16)

  a) Draw and explain encapsulating security payload (ESP) format.

  b) Explain following utilities with example.

     i) Traceroute ii) Netstat iii) NET START & NET STOP.

  c) Write note on virus and its types.

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GOVERNMENT POLYTECHNIC, KOLHAPUR 416004.
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EVEN TERM END EXAM APRIL/MAY -2016
EXAM SEAT NO.

LEVEL: THIRD   PROGRAM: INFORMATION TECHNOLOGY
COURSE CODE: IF203   COURSE NAME: ANALOG & DIGITAL COMMUNICATION
MAX. MARKS: 80   TIME: 3 HRS.   DATE: 09/05/2016

Instruction:-
1) Answers must be written in the main answer book provided. (and supplements if required)
2) Figure to the right indicates 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.

Marks

Q.1   Attempt any **FOUR**   **(08)**
   a) Draw the basic block dia of communication system.
   b) Give detail expression for amplitude modulated voltage. Explain each term.
   c) Draw neat labeled frequency modulated wave.
   d) Define pulse modulation. State it's types.
   e) Define F M. Give it's expression for the voltage.
   f) State similarities between FM & PM (any two points)

Q.2   Attempt any **FOUR**   **(16)**
   a) What is the need of modulation.
   b) Define modulation index. State the power relation in amplitude modulation.
   c) Compare between AM & FM (any four points)
   d) Explain 4 blocks of general communication system.
   e) Draw the circuit diagram of PAM. Draw it's waveform.
   f) Compare between PAM & PWM. (any four points)

Q.3   Attempt any **FOUR**   **(16)**
   a) Draw circuit diagram & waveform of PWM.
   b) Draw block diagram of FM receiver and explain.
   c) Define and Explain following term related with AM radio receiver.
     i) Selectivity   ii) Fidelity
   d) Enlist types of modulation. Explain effect of noise
   e) Draw circuit dia. of super heterodyne AM receiver.
   f) Explain effects of modulation index on the modulated wave.

Q.4   Attempt any **FOUR**   **(08)**
   a) State and explain the key elements of a protocol.
   b) Draw a neat diagram of mesh network topology.
   c) What is line coding? What are the line coding schemes?
   d) State and explain Shannon's channel capacity for noisy channel.
   e) What is multiplexing? What are the different types of multiplexing?
   f) What are the advantages of optical fiber system?

P.T.O.

Q.5 Attempt any **FOUR** (16)

a) With the help of neat diagram explain the bus network topology.

b) With the help of neat diagram explain Bipolar with 8 zero substitution (B8ZS) scrambling technique.

c) State and explain Nyquist theorem with the help of waveforms.

d) With the help of neat diagram explain the asynchronous transmission of data.

e) With the help of neat diagram explain the frequency division multiplexing process.

f) What are the various causes of losses in optical fiber?

Q.6 Attempt any **FOUR** (16)

a) With the help of neat diagram explain the different layers of TCP/IP model.

b) With the help of neat diagram explain the polar line coding schemes.

c) With the help of neat diagram explain the synchronous transmission of data.

d) With the help of neat diagram explain the frequency hopping spread spectrum technique. (FHSS)

e) With the help of neat diagram explain the optical fiber communication system.

f) With the help of neat diagram explain the unipolar line coding scheme.

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GOVERNMENT POLYTECHNIC, KOLHAPUR 416004.

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EVEN TERM END EXAM APRIL / MAY 2016
EXAM SEAT NO.

LEVEL : - THIRD   PROGRAM : INFORMATION TECHNOLOGY
COURSE CODE :- IF308
COURSE NAME :- INTERNET TECHNOLOGY
MAX. MARKS : 80   TIME : 3 HRS.   DATE :- 11 / 05 / 2016

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.

Section – I	Marks

Q.1 Attempt any FOUR   (08)

     a) Explain the client server model.

     b) What are the advantages of concurrency?

     c) What is NVT?

     d) Describe local and remote login.

     e) Explain out of Band signalling.

     f) Write a note on inetd.

Q.2 Attempt any FOUR   (16)

     a) What are different internet services? Explain PPP & SLJP account.

     b) Explain process structure of multiprotocol servers.

     c) Draw and explain IPV 6 packet format.

     d) Explain different DNS messages.

     e) Explain FTP common over data connection.

     f) Describe option negotiation between client & server.

Q.3 Attempt any FOUR   (16)

     a) Describe multiservice server for connection oriented type.

     b) Write a note on ICMPV6.

     c) Describe transaction from IPV4 to IPV6.

     d) Draw and explain transition diagram of DHCP.

     e) Explain Domain name space and BOOTP.

     f) Describe file transfer in FTP.

Q.4   Attempt any **FOUR**   (08)

    a) Define user agent.

    b) What is Hyper text and Hyper media?

    c) Define proxy server.

    d) What is jitter and play back buffer?

    e) Draw RTP packet format.

    f) Define VOIP.

Q.5   Attempt any **FOUR**   (16)

    a) Draw and explain format of Email.

    b) Write a note on Email transfer phase.

    c) Draw and explain web browser architecture.

    d) Draw and explain format of HTTP response message.

    e) What is hacking the calls in SIP? Explain in detail.

    f) Explain RTCP message types.

Q.6   Attempt any **FOUR**   (16)

    a) What is mail access agent? Explain the role of POP & IMAP in mail accessing.

    b) Describe SMTP in detail.

    c) Explain any four differences between persistant and non-persistant HTTP.

    d) Write a note on HTTP protocol.

    e) Explain any four SIP messages.

    f) Draw and explain streaming stored audio/video using media server.

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LEVEL :- **THIRD**   PROGRAM : **INFORMATION TECHNOLOGY**
COURSE CODE :- **ITE304/IF204**
COURSE NAME :- **OOP'S USING C++**
MAX. MARKS : **80**   TIME : **3 HRS.**   DATE :- **12 / 05 / 2016**

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.

Marks

Q.1   Attempt any **FOUR**   (08)

   a) State the characteristics of OOP. (any two)

   b) What is class?

   c) What is object?

   d) Explain structure of C++ program.

   e) What is difference between call by value and call by reference?

   f) Define Destructor.

Q.2   Attempt any **FOUR**   (16)

   a) How to use default arguments in constructor?

   b) Explain function overloading in C++.

   c) Write a program to find mean value of two numbers using friend function.

   d) Which operators are used in C++? State their use.

   e) How to define member function in C++?

   f) Explain static member function with example.

Q.3   Attempt any **FOUR**   (16)

   a) What is inline function? What is difference between inline function and normal function? State characteristics of inline function.

   b) What are the applications of OOP?

   c) Explain Parameterized constructor.

   d) Write note on static Data Member.

   e) What is need of function Prototyping?

   f) Write a C++ program to demonstrate use of copy constructor.
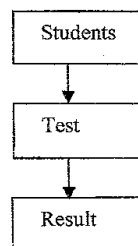
P.T.O.

Q.4 Attempt any **FOUR** (08)

a) What is overloading?

b) What is base class?

c) What is pointer?

d) What is the use of Abstract class?

e) List the type of polymorphism.

f) What is stream?

Q.5 Attempt any **FOUR** (16)

a) How to overload unary operator?

b) Why we use virtual base class?

c) Write any four rules for overloading operator.

d) Implement following Inheritance.

```
┌──────────┐
│ Students │
└────┬─────┘
     │
     ▼
┌──────────┐
│   Test   │
└────┬─────┘
     │
     ▼
┌──────────┐
│  Result  │
└──────────┘
```

e) Explain this pointer with example.

f) What do you mean by get ( ) and put ( ) function?
        gets() puts()

Q.6 Attempt any **FOUR** (16)

a) Explain manipulation of string using operators.

b) Write a C++ program to implement unary operator whenever object created the
   using friend
   value of data member become negative usign triend function.

c) When do we use protected visibility specifier to class member?

d) What is static and dynamic polymorphism?

e) State use of following formated function i) Width ii) Fill iii) Precision.

f) Explain pointer to objects.

****

LEVEL : - **FIRST** PROGRAM : **INFORMATION TECHNOLOGY**
COURSE CODE :- **ITE104/IF105/IT112**
COURSE NAME :- **C PROGRAMMING**
MAX. MARKS : 80   TIME : **3 HRS.**   DATE :- **20 / 04 / 2016**

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.

	Marks

Q.1   Attempt any **FOUR**   (08)

    a) Enlist any four Data types in C.

    b) Write logical operators with its meaning.

    c) State arithmetic operators.

    d) Write syntax for if else statement.

    e) Write any four point difference between while and DO-While loop.

    f) Define function.

Q.2   Attempt any **FOUR**   (16)

    a) Write a short note on i) Variables ii) Constants

    b) Explain formatted output in detail.

    c) Write uses of following functions i) getehar ( ) ii) putchar ( ) iii) gets ( ) iv) puts ( ).

    d) Write a program to accept one number from user and find it is odd or even.

    e) Write any four point difference between call by value and call by reference.

    f) What is recursion? Explain with one example.

Q.3   Attempt any **FOUR**   (16)

    a) Explain basic structure of C programme.

    b) Write a note on formatted input

    c) Write a programme to accept three numbers from user and find the largest number between them.

    d) Write any four point difference between it and switch statement.

    e) Explain scope and lifetime of variables.

    f) Calculate area of circle using function.

P.T.O.

Q.4 Attempt any **FOUR** (08)

a) What is an array? In what situation, it is preferred?

b) What will be output of following code program main ( )

```
{
    int num [ 26], temp;
    num [0] = 100,
    num [ 25] = 200;
    temp = num [25];
    num [ 25] = num [0];
    num [0] = temp;
    printf ( " \n %d %" , num [0], num[25]);
}
```

c) List string Handling function in C.

d) What do you mean by string? Give suitable example for declaration of string.

e) What is structure?

f) Define pointer, give example.

Q.5 Attempt any **FOUR** (16)

a) Explain two dimensional array with example.

b) Give the appropriate string function and its example for following.

   i) To concatinate two string ii) To convert a string to uppercase.

c) Write a C program to add two integer arrays of same size. Accept two arrays from keyboard.

d) Explain stremp ( ) function in detail.

e) Explain structure within structure with example.

f) How to declare, initialize pointer variable, explain with example?

Q.6 Attempt any **FOUR** (16)

a) Explain compile time and run time initialization of one dimensional array.

b) Write a C program to perform addition of 3 X 3 matrices.

c) Explain various ways of declaring and initializing string variable with example.

d) Write a C program to reverse a user and entered string.

e) Write a program to declare structure student having data members student name, roll number. Take this data for five students and print same on screen.

f) Write a program using pointer to determine the length of character string.

****

LEVEL :- FIRST PROGRAM : INFORMATION TECHNOLOGY
COURSE CODE :- IF101
COURSE NAME :- ENGINEERING DRAWING
MAX. MARKS : 80   TIME : 4 HRS.   DATE :- 21 / 04 / 2016

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.

Marks

Q.1   Attempt any TWO   (08)

   a) Construct a diagonal scale of R.F = ½ to show millimeter and centimeter to
      measure upto 35 centimeter. Show on the scale a distance of 23.6 centimeter.

   b) i) Construct a regular octagon of 30mm side.
      ii) Divide a 12cm straight line into 9 number of equal parts.

   c) Construct a plain scale of 1:4 to show centimeters and long enough to measure
      upto 5 decimeters.

Q.2   Attempt any TWO   (16)

   a) i) Construct a diagonal scale of R.F. = 1/4000 to show meters and long enough to
         measure upto 500 meters.
      ii) Construct a plain scale to show kilometers and hectometers when 2.5 centimeters
          represent 1 kilometer and long enough to measure upto 6 kilometers. Find R.F.
          and indicate a distance of 5 kilometers and 4 hectometers on our scale.

   b) i) Draw the projections of a point A lying on H.P. and 30mm in front of V.P.
      ii) Draw the projections of a point B lying on H.P. and 40mm infront of V.P.

   c) A line PQ, 110mm long is in H.P. with its end P, 20mm in front of V.P. Draw its three
      views. When the end Q is 60mm infront of V.P. Determine its inclination with V.P.

Q.3   Attempt any TWO   (16)

   a) The end A of a line AB, 100mm long, is in V.P. and 25 mm above the H.P. The
      line is parallel to H.P. and inclined at 45^0 with V.P. Draw its three views, Find
      the distance of end B from V.P.

P.T.O.

b) A pentagonal plate 80mm side is resting on a side on H.P. with its surface perpendicular to V.P. and inclined at 40^0 with H.P. Draw its three views. When its centre is 100mm in front of V.P. Neglect the thickness of the plate.

c) A circular plate, 50mm diameter, has its centre 30mm above HP and 35mm infront of V.P. Draw the three views of the plate, when its surface is perpendicular to V.P. and inclined at 45^0 to H.P. Neglect the thickness of the plate.

Q.4   Attempt any **TWO**   (16)

a) Fig. I shows isometric view of a machine component. Draw following views.
   i) Front view looking in X direction.
   ii) Top view.

b) Fig. II show isometric view of a machine component. Draw following views.
   i) Front view looking in X direction.
   ii) Right hand side view.

c) Fig. III shows pictorial view of object. Draw
   i) Front view looking in direction Y.
   ii) Left hand side view.

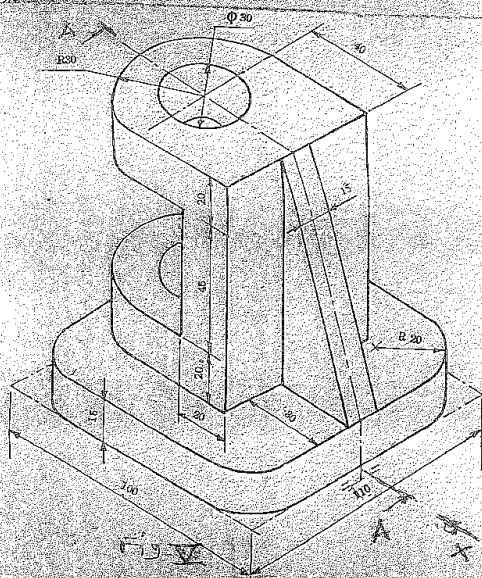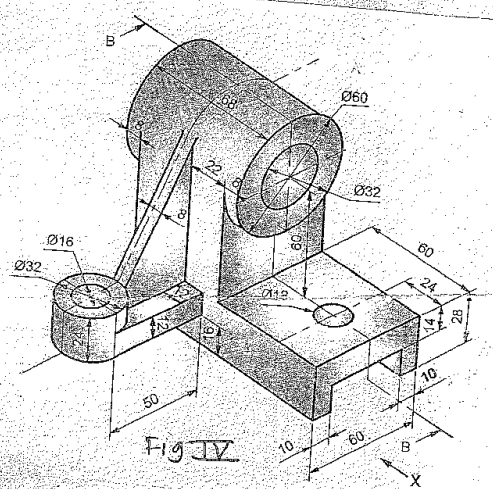Q.5   Attempt any **ONE**   (10)
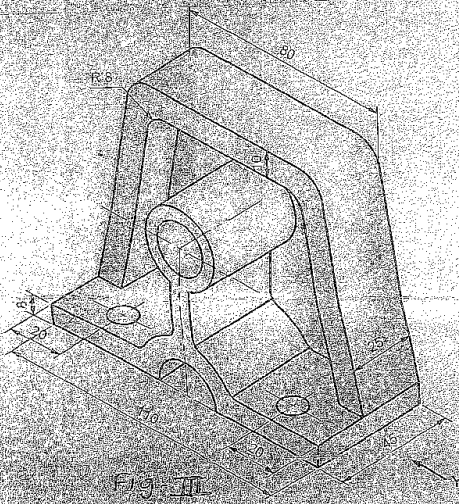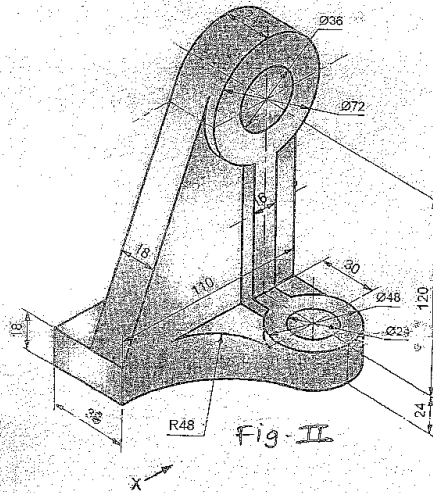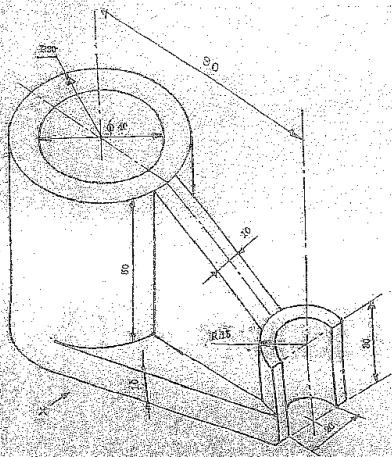
a) Fig. IV shows isometric view of a machine component. Draw following views.
   i) Front view looking in X-direction.
   ii) Sectional L.H.S.V. (section B-B)

b) Fig. V shows isometric view of a jaw support bracket. Draw following views.
   i) Front view in X direction.
   ii) Sectional left side view (section A-A)

Q.6   Attempt any **ONE**   (14)
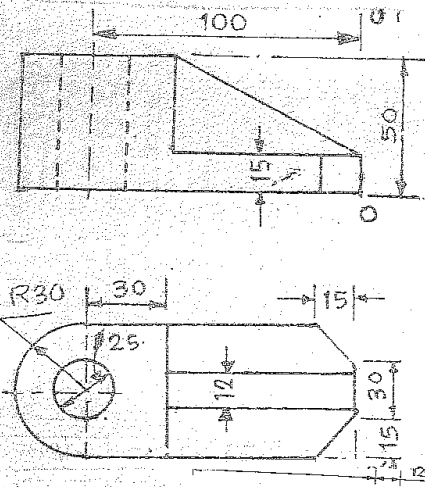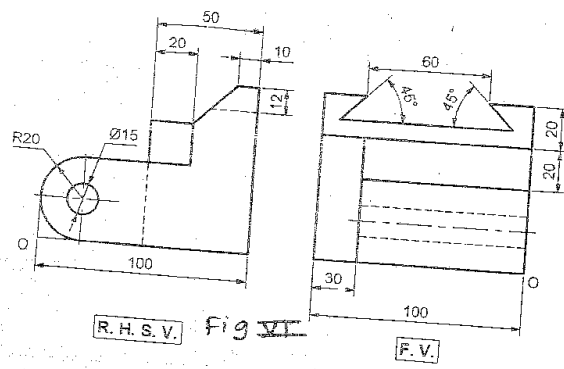
a) Fig. VI shows side view and right hand side view of an object. Draw isometric view.

b) Fig. VII shows front view and top view of an object. Draw isometric view.

****

Fig-I

Fig-II

R48

X

Fig-III

Ø36
Ø72
Ø48
Ø23

Ø16
Ø32
Ø60
Ø32
Ø12

Fig IV

B

X

Ø 30
R 30
R 20

Fig V

A

X

P.T.O.

R.H.S.V. Fig VI F.V.

Fig - VII

GOVERNMENT POLYTECHNIC, KOLHAPUR – 416004.
(An Autonomous Institute of Govt. Of Maharashtra)
EVEN TERM END EXAM APRIL / MAY 2016
EXAM SEAT NO.

LEVEL :- **FOURTH**   PROGRAM :- **INFORMATION TECHNOLOGY**
COURSE CODE :- ITE404/IF304/IT305
COURSE NAME :- **WEB TECHNOLOGY**
MAX. MARKS : 80   TIME : **3 HRS.**   DATE :- **21 / 04 / 2016**

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.

Section – I	Marks

Q.1   Attempt any FOUR   (08)

   a) Write code for open and close connection.

   b) How we can handle error in ASP.Net?

   c) What is session object?

   d) What is creatobject ( ) Method?

   e) What is web application?

   f) How to create web forms?

Q.2   Attempt any FOUR   (16)

   a) What is IIS? State its purpose.

   b) How to create cookies in ASP.Net? Give an example.

   c) Explain use of globle.aspx file.

   d) Write down steps for adding assembly file.

   e) Write down steps for creating data line file.

   f) Explain execution methods of command object with example.

Q.3   Attempt any FOUR   (16)

   a) Write a program to implement show, insert, update, delete using SQLcommand object.

   b) Write a program to transfer data from one page to another using session.

   c) Write a program to implement session and application object.

   d) Write down advantages and disadvantages of cookies.

   e) Explain methods of option button with example.

   f) Write down difference between ASP and ASP.net.

P.T.O.

Q.4   Attempt any **FOUR**   (08)

    a) How transaction db is designed?

    b) List the templates of repeater control.

    c) Explain session objects with child objects.

    d) What is security?

    e) What is XML?

    f) State Features of XML.

Q.5   Attempt any **FOUR**   (16)

    a) Write a web application that will display data in datagrid in sorted order.

    b) What is authentication? Explain with its one of the type.

    c) Explain XML as marking language.

    d) Explain data table and data row with example.

    e) Explain form based authentication using database.

    f) Explain Read XML, write XML with example.

Q.6   Attempt any **FOUR**   (16)

    a) Describe creation of online application of shopping mall using data table and data row.

    b) Write procedure to creating application which sends email.

    c) Explain integrated window authentication.

    d) What is difference between Data list and Data grid?

    e) Write a note on Evaluation of XML.

    f) Compare Basic Authentication with form based authentication.

****

LEVEL : - **THIRD** PROGRAM : **INFORMATION TECHNOLOGY**
COURSE CODE :- **ITE302/IF202/IT202**
COURSE NAME :- **DIGIAL ELECTRONICS**
MAX. MARKS : **80** TIME : **3 HRS.** DATE :- **22 / 04 / 2016**

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.

Marks

Q.1 Attempt any **FOUR** (08)

a) What is characteristics of gray code?
b) Convert $(4C.B)_{16} = (?)_2 = (?)_8$.
c) Add $(1011.101)_2$ and $(101010.001)_2$.
d) Draw symbol, logic expression and truth table of NOR gate.
e) Draw the block diagram of full adder using half adder.
f) Define i) Encoder ii) Decoder.

Q.2 Attempt any **FOUR** (16)

a) Subtract using 1's complement method
   i) $(11011)_2 - (1010)_2$. ii) $(10111)_2 - (11000)_2$.
b) Convert the following
   i) $(11001)_2 = (?)_{10}$. ii) $(10101)_2 = (?)_8$.
   iii) $(37)_8 = (?)_2$. iv) $(5AC)_{16} = (?)_2$.
c) Simplify the following SOP expression using K-MAP $Y = \sum M(1,3,5,7,8,10,14)$
   Draw the logical diagram of minimized expression using logic gates.
d) Design a half subtractor circuit using K-map.
e) Draw logic diagram of 1:4 demultiplexer. Write truth table of it.
f) Draw the block diagram of ALU IC (7418) and also write its operation.

Q.3 Attempt any **FOUR** (16)

a) Convert $(105..25)_{10} = (?)_2 = (?)_8 = (?)_{16}$.

b) Add $(517)_{10}$ and $(892)_{10}$ in BCD.

c) Find the reduced form of following function $f(A,B,C) = \sum m(1,4,5,6,7)$ using
   K-map and draw logic circuit.

d) State and prove Demorgan's theorem.

e) Describe the operation of four bit parallel adder using IC 7483 with circuit diagram.

f) Draw block diagram of decimal to BCD encoder with its truth table. P.T.O.

Q.4   Attempt any **FOUR**   (08)

    a) Draw RS flipflop and give its truth table.

    b) Give any two specifications for DAC.

    c) Define Race around condition in JK-flipflop.

    d) Give four stages in ADC.

    e) Define Latch.

    f) Draw Pin diagram of 0808.

Q.5   Attempt any **FOUR**   (16)

    a) Explain MOD-3 counter.

    b) Classify Memory and define i) Static memory ii) Dynamic memory.

    c) Explain weighted register DAC.

    d) Draw and give working of PISO mode of operation of register.

    e) Draw block diagram of memory organization and explain.

    f) Draw pin diagram of 0809 and explain its working.

Q.6   Attempt any **FOUR**   (16)

    a) Explain Ripple down counter.

    b) Define i) RAM ii) PROM.

    c) Draw and explain Dual slope ADC.

    d) Draw i) D flipflop ii) T flipflop . Give their truth tables.

    e) Write about i) EPROM ii) EEPROM.

    f) With neat diagram. Explain R-2R ladder DAC.

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LEVEL : - THIRD PROGRAM : INFORMATION TECHNOLOGY
COURSE CODE :- ITE303
COURSE NAME :- DATA COMMUNICATION
MAX. MARKS : 80   TIME : 3 HRS.   DATE :- 22 / 04 / 2016

Instruction :-
1) Answers must be written in the main answer book provided.(and supplements if required)
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Marks

Q.1 Attempt any **FOUR** (08)

    a) Define Date Communication.

    b) Explain the term half duplex transmission.

    c) What is analog data?

    d) What is Bit Rate?

    e) Enlist two methods of analog to digital conversion.

    f) What is meant by digital to digital conversion?

Q.2 Attempt any **FOUR** (16)

    a) Explain communication system components with diagram.

    b) Describe local Area Networks.

    c) Describe following transmission impairments i) Attenuation . ii) Distortion.

    d) Explain Noiseless channel- Nyquist bitrate.

    e) Write a note on i) Bipolar- AMI ii) Multilevel.

    f) Explain parallel transmission

Q.3 Attempt any **FOUR** (16)

    a) Explain various forms of data representation.
    b) Explain periodic and non periodic singles.

    c) Explain Shannon capacity for noisy channel.

    d) Describe pulse code modulation.

    e) Explain Line coding scheme with polar NR2 – L & NRZ-I.

    f) Explain serial transmission with diagram.

P.T.O.

Q.4 Attempt any **FOUR** (08)

a) What is meant by digital to analog conversion?

b) Draw a neat figure to show frequency shift keying.

c) Define multiplexing.

d) How does hamming distance help in error detection?

e) Explain the term forward error correction.

f) An analog signal carries four bits per signal element. If 1000 signal elements are sent per second, find bit rate.

Q.5 Attempt any **FOUR** (16)

a) With neat diagram explain amplitude modulation.

b) Explain binary Ask with diagram.

c) Explain frequency Division Multiplexing.

d) What is role of data link layer in flow control?

e) How checksum is used in error detection? Give example.

f) Explain synchronous time division multiplexing with diagram.

Q.6 Attempt any **TWO** (16)

a) Explain stop and wait protocol for noiseless channel.

b) Explain error correction using CRC with block diagram. Give example.

c) Explain how simple parity check code is used to detect data transmission error? Give example.

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LEVEL :- **THIRD** PROGRAM : INFORMATION TECHNOLOGY
COURSE CODE :- **ITE308/IF212**
COURSE NAME :- **COMPUTER ARCHITECTURE & MAINTENANCE**
MAX. MARKS : **80** TIME : **3 HRS.** DATE :- **23 / 04 / 2016**

Instruction :-
1) Answers must be written in the main answer book provided.(and supplements if required)
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Marks

Q.1 Attempt any **FOUR**

(08)

  a) Define Firmware.

  b) What is mean by hard boot and soft boot?

  c) What is use of DAM channel?

  d) Which are the major manufactures of system board?

  e) Define system clock.

  f) Write a difference between SIMM & DIMM.

Q.2 Attempt any **FOUR**

(16)

  a) Write a note on system board.

  b) Describe hardware used for i/p and o/p with diagram.

  c) Explain following components i) ROM BIOS ii) Flash ROM.

  d) Explain boot process with neat diagram.

  e) Explain CMOS setting and their purpose.

  f) Differentiate between Real Mode v/s Virtual Mode.

Q.3 Attempt any **FOUR**

(16)

  a) List and explain three types of software.

  b) Explain primary and secondary storage devices.

  c) Describe following thing i) 8 bit ISA Bus ii) IRQ (Interrupt Request Number)

  d) Describe CPU and chipset.

  e) List on-board ports and explain.

  f) Write a note on physical memory.

P.T.O.

Q.4   Attempt any **FOUR**   (08)

    a) What is mean EMI?

    b) State use of UNFORMAT & PATH command.

    c) Compare SCSI & EIDE. (any four points)

    d) List any four trouble shooting tools.

    e) Enlist any four general purpose utility softwares.

    f) State fundamental rules for PC troubleshooting.

Q.5   Attempt any **FOUR**   (16)

    a) Describe disk compression in detail.

    b) Write note on Hard drive Technology.

    c) Enlist troubleshooting of OS & hard drive.

    d) State and explain use of video cards.

    e) Explain working of monitors.

    f) Explain AC and DC current in brief.

Q.6   Attempt any **FOUR**   (16)

    a) Explain parallel ports in detail.

    b) Explain universal serial bus.

    c) Explain UPS with neat diagram.

    d) Explain following terms current and resistance.

    e) Describe fragmentation in detail.

    f) Explain problems related with keyboard and monitor.

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