S.B. Roll No. _____

SYSTEM ANALYSIS AND DESIGN

3rd Exam/Comp/6245/0062/0621/0261/Dec'11

Duration 3 Hrs. 75 Marks:

Section A

Q1. Do as directed: 15

a. Input, processing and output are three complonents of every system. (T/F)
b. SDLC stands for _____.
c. The main goal of _____is not solve the problem but to achieve the scope.
d. The real code is written in _____ phase of SDLC.
e. _____ is the phase in software testing in which individual software modules are combined and tested as a group.
f. Cocomo stands for _____.
g. Decision trees are simple to understand and interpret (T/F).
h. _____ is a process of executing a program with the intending of finding an error.
i. ROI stands for _____.
j. Coding is not step in system development lift cycle (T/F)
k. System analysis and design are the same phase of system development life cycle (T/F)
l. In parallel run computerized and _____ system are executed in parallel.
m. Structure design is a blue print of a computer system. (T/F)
n. In _____ run the new system installed in parts.
o. Testing is an important phase of a successful system. (T/F)

Section B

Note: Attempt any six questions 5x6

Q2 i. What are major objectives of system analysis.
ii. Explain goal of feasibility study.
iii. Define a system. What are basic complonents of system.
iv. Explain importance of system analysis and design in development of a system.
v. What do you mean by fact finding technique?
vi. What do you understand by data dicitonaries?
vii. What is open and closed system?
viii. Explain role of decision tree in requirement specifications and analysis.
ix. Explain static and dynamic system with examples.
x. Write short note on integration testing.

Section C

Note: Attempt any two questions 15x2

Q3. Explain various phases in SDLC.

Q4. What do you mean by techinical, economic and operational feasibility.

Q5. Explain various testing techniques.

Q6. The system analysis and design is backbone of application software development? Explain.

S.B. Roll No. _____

AUTOMOTIVE MATERIALS

3rd Exam/Auto/0935/Dec'11

Duration : 3 hrs M.Marks : 75

Note : Fill in the blanks: - (15x1=15)

i) Metals are ———— conductors of electricity & heat.
ii) Steel having 0.8% of carbon is called————
iii) Brass is an alloy of ————&————.
iv) Stainless steel contains 8% nickel and 18%————.
v) Gears, shafts and axles are made of————.
vi) Gun metal is an alloy of ————
vii) Solder is an alloy of ————.
viii) Thermosetting resins are more ————than thermoplastic resins.
ix) ———— is one of the trade names of polysterene.
x) PVC stands for ————
xi) ———— has reddish brown colour.
xii) ———— steels are mixture of pearlite and cementite.'
xiii) Tempering is done to ————the brittleness of components.
xiv) The mechanical properties of rubber can be greatly improved by————
xv) ———— is obtained from bark of certain trees.

Note: Attempt any five questions (5x6=30)

1. Define metal. What is the difference between metal and non-metal?
2. Enlist thermal properties of materials and explain any three thermal properties.
3. Discuss the effect of alloying elements in steel.
4. Discuss properties & uses of
   a) Bearing metals
   b) Soldiers
5. Name four electrical insulating materials and give their uses.
6. Briefly describe the various steps involved to prepare a specimen for micro examination.
7. Differentiate between hardening and case hardening.

Note: Attempt any two questions.. (2x15=30)

1. Classify plain carbon steels. Explain the properties, availability and uses of different types of plain carbon steels.
2. Explain in detail the various tests you will carry out for identification of metals & alloys.
3. Explain briefly the following heat treatment processes: -
   i) Hardening
   ii) Tempering
   iii) Annealing
   iv) Normalizing
   v) Carburizing

S.B. Roll No. _____

ELECTRICAL ENGG. DESIGN AND DRAWING

3rd Exam/Elect/5210/0652/Dec'11

Duration 3 Hrs. 75 Marks:

Note: Attempt any four questions. Question No. 1 & 5 are compulsory

Q1. Draw the graphical symbol of the following 15

a. Lightning assestor
b. Distribution fuse board without switches (power)
c. Energymeter
d. DC motor
e. Pendent switch
f. Fluorescent tube
g. Circuit breaker
h. Exhaust fan
i. Floadlight
j. Rewirable fuse

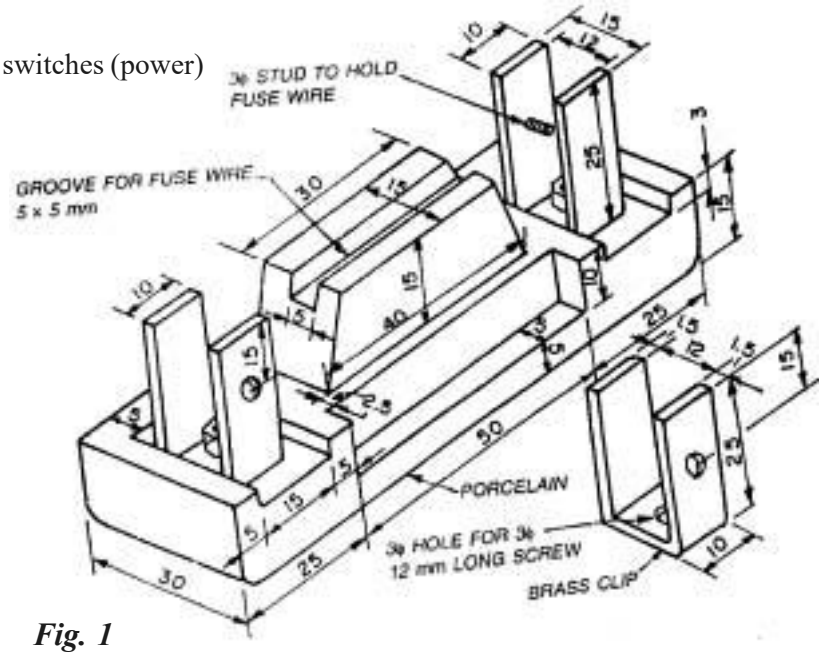

Fig. 1

Q2. Draw a wiring diagram and single line diagram showing connections of single phase energymeter, double-pole main switch and distribution board having three sub-circuit through MCBs. 20

Q3. A 3-phase induction motor is to be started and stopped from three different locations such that the motor can be started from one location and stopped from any one of the other two locations. Draw the schematic and wiring diagram. 20

Q4. Draw a schematic and wiring diagram with single linc representation of one bell controlled by two push buttons located at two different places. The bell should ring by pressing any one of the two buttons.

Q5. Draw front elevation, side view and top view of a fuse carrier shown in fig.1 20

OR

Draw front elevation side and top view of a bus bar post shown in fig. 2.

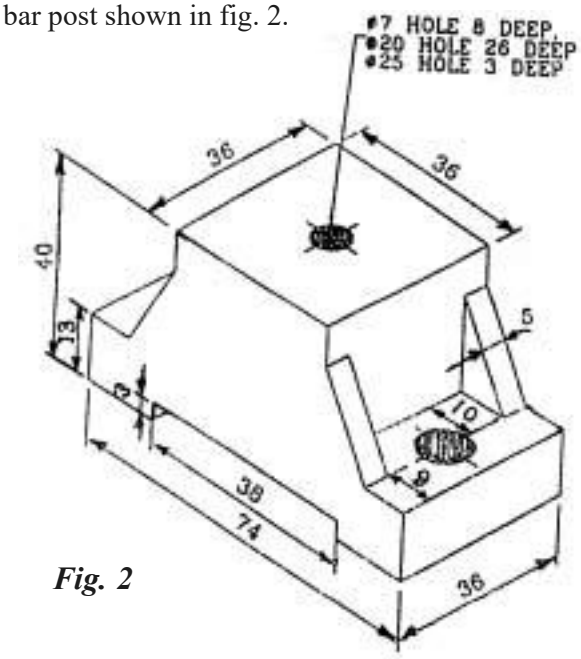

Fig. 2

S.B. Roll No. _____

BUILDING CONSTRUCTION

3rd Exam/Civil/4851/0517/5149/Dec'11

Duration 3 Hrs. 75 Marks:

Section A

Q1. Fill in the blanks 5

a. Under surface of an arch is called _____.
b. Platform between two flights of a stair is named as _____.
c. Steel bars are embedded in cement concrete to take up _____ stresses.
d. When a brick is cut half lengthwise then so cut bricks are known as _____.
e. The roof which slopes in four directions is called _____.

State True or False 5

a. The ingredient which provide colour to the paint is called base.
b. The vertical face of a step is called riser.
c. Grillage foundation is also called deep foundation.
d. 300 brick, are used in one cubic metre of masonry.
e. The floor above ground level is known as suspended floor.

Choose the correct anser 5

a. Bricks should be laid with their frogs upward / downward.
b. Rubble masonary is cheaper/costlier than ashlar masonry.
c. Raking shores are used to support stable/unstable parts of structure.
d. The opening provided on the top of the door is called fanlight /ventilator.
e. Load should act parallel/ perpendicular to bedding planes of stones.

Section B

Note: Attempt any ten questions 10x3

Q2 i. What ar the parts of a building?
ii. What is the purpose of cavity walls?
iii. Why brick partitions are preferred to wooden partition walls?
iv. Name various types of floors.
v. What ar the requriements of an ideal damp proofing material.
vi. What are the purpose of antitermite treatments.
vii. Differentiate between voussoir and key stone.
viii. Why is dressing of stones essential is stone masonry.
ix. Differentiate between deep and shallow foudation.
x. List the various materials used for DPC.
xi. Differentiate between flat roof and pitched roof.
xii. Draw sketches of a king closer and queen closer.

Section C

Note: Attempt any three questions 10x3

Q3 a. What are the requirements of a good stair.
b. How dampness can be prevented in a building?

Q4. Write short notes on
a. Building planning and its principles.
b. Orientation of buildings.

Q5. Draw a neat sketch of semicircualr arch and show the folloiwng on the sektch crown, key, voussoir, spandril, sofit, rise, span and Haunch.

Q6 a. Draw the elevation of glazed and pannalled door and indicate the name of its parts.
b. What are the advantages and disadvantages of English bond and Flemish bond.

S.B. Roll No. _____

ELECTRONIC DEVICES AND CIRCUITS

3rd Exam/ECE/0361/6148/0616/Dec'11

Duration-3hrs. M.Marks-75

Section-A

Q1. Fill in the blanks:- (10×1.5=15)

a. Positive feedback is used in _____
b. An op-amp has____ number of inputs.
c. Oscillator employs_____ feedback.
d. A high Q circuit has_____ selectivity.
e. An integrated op-amp consists of_____ stages.
f. In a class-A amplifier power dissipation_____ with signal level.
g. The _____ LC oscillator has split capacitor.
h. Boot strap circuit generally employs_____ circuit.
i. Darlington circuit is obtained by connecting in cascade____ stages.
j. A photo-diode is optimized for its sensitivity of _____.

Section-B

Attempt any five questions: (5×6=30)

Q2. Write use of positive feedback.

Q3. Write the comparison of voltage and power amplifiers.

Q4. Discuss the basic principle of feedback.

Q5. Explain working principle and construction of Wein Bridge oscillator.

Q6. Explain class-A operation of amplifier.

Q7. Explain the behavior of diode clipping circuit.

Section –C

Attempt any three questions: (3×10=30)

Q8. Explain the principle and working of Wein Bridge oscillator? Give its applications.

Q9. Describe the RC coupled amplifier and its working. Give its applications.

Q10. With the help of suitable diagram explain the working principle of bistable multivibrator.

Q11. Draw the block diagram of IC 555 and its working.

S.B. Roll No. _____

MATERIAL SCIENCE

3rd Exam/Mech/5348/0753/0536/Dec'11

Duration 3 Hrs. 75 Marks:

Section A

Q1. Do as directed: 15

a. Lead is a ferous material. (T/F)
b. Wrwought iron has less than 0.08% C. (t/F)
c. The main constituent of Grey CT is _____.
d. Copper has _____ structure.
e. Any material which shows property of plasticity ie capacity to get deformed on change shape under pressure is called _____.
f. The cork have a _____ structure.
g. High temperautre tempering is performed at _____.
h. The process of producing hard surface of nitrides on a soft core is called _____.
i. Stiffness is the property by vitue of which the material resists deformations. (T/F)
j. The test which is based on the basis of the hardness of the metal is known as _____.

Section B

Note: Attempt any six questions 6x5

Q2 i. What do you mean by ceramics materials?
ii. What is crystal structure?
iii. What is cast iron?
iv. Write down the sues of wrought iron?
v. What are the limitaitons of non ferrous metals?
vi. What do you mean by case hardening?
vii. What do you mean by plastic casting?
viii. Write short notes on rubber.

Section C

Note: Attempt any two questions 15x2

Q3. Write short notes on appearance test, sound test, spark test, weight test and magnetic test?

Q4. Write in detail the term plastics? Give the properites of plastics in detail from engineering point of view?

Q5. Write down the properties and uses of bearing metals and solders