

ROLL NO. : 30573

$n^o l^T^3$

$$\frac{C}{g} = F^{-\frac{3}{2}}$$

861602005

CLASS : 1ST SEMESTER.

BRANCH : ALL EXCEPT (DMQS / MLT / OMCA / T&T / GT / TD / FD).

SUBJECT : APPLIED PHYSICS - I.

TIME : 3HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS.
- ii. USE BLUE PEN ONLY.

~~Q1.~~ (a) Using the method of dimensions, derive an expression for time period (t) of a simple pendulum which may depends upon length (l) of the pendulum, acceleration due to gravity (g) and mass (m) of the bob.

(b) Convert 10 joule into ergs. (14, 6)

~~Q2.~~ (a) Define impulse. Derive its expression in terms of change in linear momentum.

(b) State triangle law of vector addition. Derive expression for magnitude of resultant vector. (10, 10)

~~Q3.~~ (a) Define torque and angular momentum. What is the relation between them?

(b) Define radius of gyration. Derive its expression. (10, 10)

~~Q4.~~ (a) Prove that the total energy remains conserved for a freely falling body.

(b) Define kinetic energy. Derive its expression. (10, 10)

~~Q5.~~ (a) Define pressure. Give its units. What are atmospheric pressure, gauge pressure, absolute pressure?

(b) Define modulus of elasticity. What are its different types? (10, 10)

~~Q6.~~ (a) Define linear expansion. Derive expression for coefficient for linear expansion.

(b) Explain the modes of transfer of heat with examples. (10, 10)

~~Q7.~~ (a) What are the medical and the engineering applications of ultrasonic?

(b) Define wave motion. Explain its types with examples. (10, 10)

~~Q8.~~ (a) Define simple harmonic motion. Derive expressions for displacement, velocity, acceleration in SHM.

(b) Calculate the work done by the force which displaces the body of mass 10 kg through a distance of 10m and produce an acceleration of 10 m/s² in it. (12, 8)

~~Q9.~~ (a) If the scalar product of two vectors A and B is 10 and the magnitudes of A and B are 2 and 5 respectively, find the angle between them.

(b) Calculate the momentum produced in a body of mass 0.5 Kg moving with velocity of 3m/s. (10, 10)

~~Q10.~~ (a) Express 37 °C in terms of kelvin and Fahrenheit.

(b) Check the correctness of the equation: $v^2 = u^2 + 2as$. (10, 10)

ROLL NO. : 205273



86160200

CLASS : 1ST SEMESTER.

BRANCH : ALL EXCEPT (ARCH ASSTT / MLT / OMCA / T&T / FD / GT / TD).

SUBJECT : ENGINEERING DRAWING - I.

TIME

4 HRS.

INSTRUCTIONS FOR CANDIDATE:-

MAX. MARKS: 100

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS. LINE WORK SHOULD BE NEAT AND CLEAN.
- ii. USE BLUE PEN ONLY.

Q1. Write in free hand, single stroke, with ratio of 10:6 "DRAWING IS THE LANGUAGE OF ENGINEERS". Keep the letters vertical adopting a height of 14 mm? (20)

Q2. Draw the following regular polygons to scale:

- a) Hexagon with side 40 mm.
- b) Pentagon with side 25 mm.

(10, 10)

Q3. Draw the projection of the following points:

- a) A, 20 mm above HP and 45 in front of VP.
- b) B, 30 mm in below HP and 20 mm behind VP.
- c) C, 25 mm above HP and 35 mm behind VP.
- d) D, resting on HP and 30 mm in front of VP.

(5, 5, 5, 5)

Q4. Construct a diagonal scale of RF = 3:200 showing meters, decimeters and centimeters. The scale should measure up to 6 meters. Show a distance of 4.56 meters. (20)

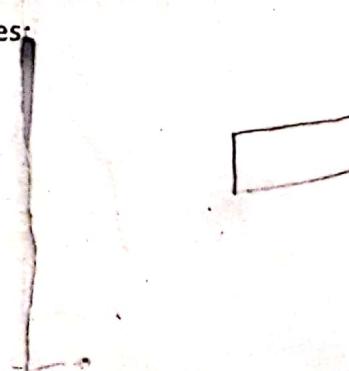
Q5. A line AB, 90 mm long is inclined at 30° to HP and parallel to VP. The line is 80 mm in front of VP. The lower end A is 30 mm above HP. Draw its projections. (20)

Q6. A right rectangular pentagonal prism edge of base 20 mm and height 50 mm rest on its base in HP with one of the base edge perpendicular to VP. A cutting plane perpendicular to VP and inclined to HP at 30° cuts its axis at a distance of 30 mm from the base. Develop the lateral surface of the truncated prism. (20)

Q7. a) Draw the following conventional lines:

- 1) Long break lines.
- 2) Axis line.
- 3) Section line.
- 4) Continuous thin line.

(12)



K.T.O

b) Draw the conventional signs for the following materials in sections:

1) Gun metal.

2) Wood.

(04, 04)

Q8. Draw the front view, top view and left hand side view of the object shown in figure - I. (07, 07, 06)
(Dimensions in mm).

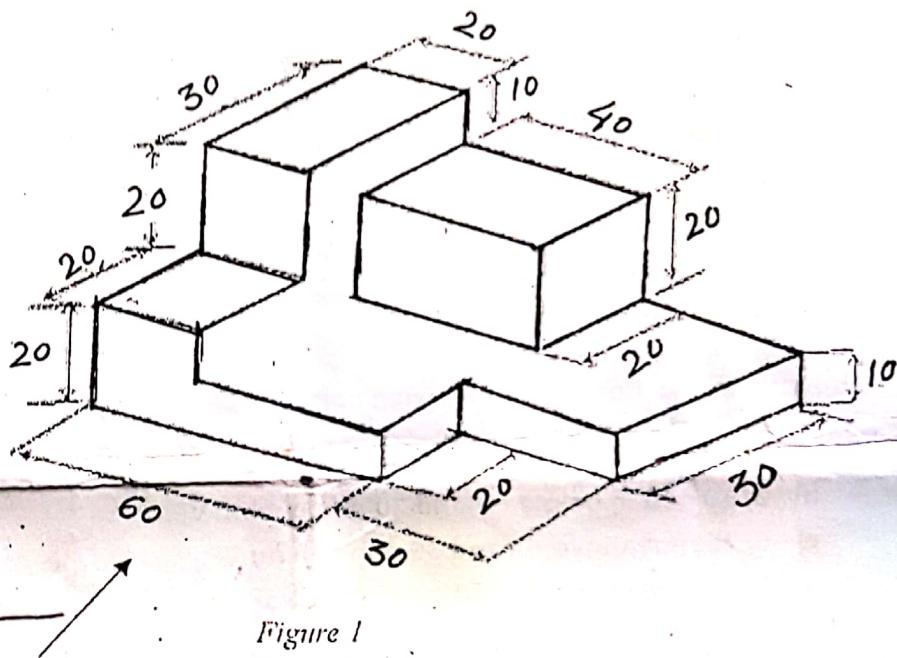


Figure 1

Q9. A Square lamina (Plane surface), of side 40 mm is placed in the first quadrant with its surface parallel to HP and perpendicular to VP. Draw its projections if the nearest corner of the square is 30 mm away from VP. (20)

Q10. a) Construct a parabola by tangent method with the base dimension 140 mm and height 100 mm.

b) Focal points of the ellipse are at 80 mm apart and mirror axis is of 60 mm length. Determine the length of major axis and draw the ellipse by concentric circle method. (10, 10)

ROLL NO. : 30573

861602002

CLASS : 1ST SEMESTER.

BRANCH : ALL EXCEPT (MLT / OMCA / T&T / GT / TD / FD).

SUBJECT : APPLIED MATHEMATICS - I.

TIME : 3HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS.
- ii. ALL QUESTIONS CARRY EQUAL MARKS. Q9 AND Q10 MUST BE SOLVED AS PER THE SCHEME OF THE CANDIDATE.
- iii. USE BLUE PEN ONLY.

Q1. Objective type questions:

- a) The angle $5\pi/3$ lies in the quadrant 2 (10x2 = 20)
b) Equation of line parallel to y-axis will be 2
c) The value of $\tan \theta$ in fourth quadrant is 2
d) Find the modulus of $3+8i$ 2
e) Evaluate $(\cos \theta + i \sin \theta)^4$ 2
f) Write the standard form of hyperbola. 2
g) If $\sin x = 3/4$ and $\tan x = 9/2$, then $\cos x$ is 2
h) The max. value of $\cos x$ is 2
i) Write the expansion of $(1+x)^{-1}$ 2
j) Find the value of $\tan 65^\circ$ 2

✓ Q2. (a) Resolve into partial fraction $\frac{2x-3}{(x-1)(x-2)}$

(b) Find the middle term in the expansion of $(2x + \frac{3}{x})^{20}$

Q3. (a) How many terms of the series $19+17+15+\dots$ will amount to 91?
Sum the Series $\sqrt{2} + 2\sqrt{2} + \dots$ 10th

(b) Expand upto four terms $(1+3x)^{11/3}$, where $|x| < 1/3$. (10, 10)

Q4. (a) Resolve into partial fraction: $\frac{x-4}{(x+4)(x^2-3x+2)}$

(b) Sum the series $101+99+97+\dots+47$. Number of terms of series $9-3+1-1\dots$ (10, 10)

Q5. (a) Prove that $\frac{\sin 3A - \cos 3A}{\sin A + \cos A} = 2 \sin 2A - 1$

is $-\frac{1}{243}$. (10, 10)

(b) Find the value of $\cos 48^\circ$ without using table.

Q6. (a) Prove that $\cos 10^\circ \cos 50^\circ \cos 70^\circ = \frac{\sqrt{3}}{8}$

(b) If $\cos \theta = n \cos \phi$ and $\sin \theta = m \sin \phi$, prove that

(i) $(m^2 - n^2) \sin^2 \theta = m^2(1-n^2)$ (ii) $(n^2 - m^2) \cos^2 \phi = 1-m^2$

K.T.O.

Q7. (a) Find the perpendicular distance between the lines $9x+40y-20=0$ and $9x+40y+62=0$.

(b) Find the value of p such that the lines $7x+4y+13=0$ and $px = 4y+6$ are parallel. (10, 10)

Q8. (a) Show that the points $(9, 2)$ lies on the circle: $x^2+y^2-6x-10y-11=0$.

(b) Find the angle between the lines $3x+y-7=0$ and $x+2y+9=0$. (10, 10)

SECTION -A (FOR OLD SCHEME CANDIDATES)

Q9. (a) Find the equation of the circle passing through three given points $(1, 2)$; $(3, -4)$ and $(5, -6)$. Also find the radius and coordinates of the circle. (10, 10)

(b) Resolve into partial fraction $\frac{1}{(1-x)(1-2x)(1-3x)}$

Q10. (a) Find the equation of the circle whose centre is $(4, -3)$ and the radius is 5.

(b) Find three numbers in A.P whose sum is 27 and the sum of whose squares are 293. (10, 10)

SECTION-B (FOR NEW SCHEME CANDIDATES)

Q9. (a) Obtain the equation of an ellipse having the focus at $(1, 2)$ and directrix $3x+4y=5$ and $e = 1/2$

(b) Find the vertices, foci, directrices, length of the latus rectum and eccentricity of the hyperbola

$$9x^2-16y^2=144. \quad (10, 10')$$

Q10. (a) Find the real and imaginary part, if $\frac{9-i}{3+5i} = x+iy$.

(b) If $\cos \theta = \frac{2}{3}$, find the value of $\cos 3\theta$. (10, 10')

ROLL NO. : 30573

861602001

CLASS : 1ST SEMESTER.

BRANCH : ALL.

SUBJECT : ENGLISH & COMMUNICATION SKILLS – I.

TIME : 3HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:-

- i. ATTEMPT ALL QUESTIONS.
- ii. USE BLUE PEN ONLY.

Q1. Describe the agony and torture faced by Phatick in Calcutta?

OR

What lesson do we learn from the story 'The Diamond Necklace'? (15)

Q2. Briefly recall the main points of Dr. Martin Luther King's Jr. Speech.

OR

Describe the various characters and their habits? (15)

Q3. Discuss the summary of the poem 'Dattodil'

OR

Give the central idea of the poem 'Ozymandias'? (15)

Q4. What do you mean by communication:-

Discuss: a) process of communication. b) Objectives of communication. (10)

Q5. Paragraph writing: (Do only one)

- a) Discipline.
- b) Corruption.
- c) Technical education.

(10)

Q6. Comprehension:-

In democratic countries, men are equal before the Law & have a voice in deciding how & by whom they shall be governed. But sharing out of money, which means the sharing out of food & clothing & houses & books and so on, is still very unfair. While a few people live in luxury, many have not even enough to eat and drink and wear. Even on the finest of the world's cities, thousands of people live in dreadful surroundings. There are many families of five or six persons who live in single room; in the room they are born, and in the same room they die. And they live like this not for fun, but because they are too poor to afford another room.

K.T.O

- a) What are the rights of men in democratic Countries?
- b) What do you feel about the sharing out of money?
- c) How do people live in the democratic Countries?
- d) What are the living conditions in the finest of the world's cities?
- e) Why do many people live in single room, where they ultimately die?

(10)

Q7. Define Nouns, Pronouns and explain its kinds?

Q8. Correction of incorrect sentences: (Do any five)

- a) The cattle was grazing in the field.
- b) His hairs are black.
- c) We always help the poors.
- d) I have taken my meals.
- e) These sweets smell sweetly.
- f) Your's sincerely.

(05)

Q9. One word substitution: (Do any five).

- a) An assembly of listeners.
- b) An animal which eats flesh.
- c) A tank for fishes or water plants.
- d) The home of the lion.
- e) A house for dogs.
- f) A house for horse.

(05)

ROLL NO. :

861701310

CLASS : 2ND SEMESTER.

BRANCH : COMP / IT / E&C / MED. ELTX.

SUBJECT : BASIC ELECTRONICS.

TIME : 3 HOURS

MAX. MARKS: 100

INSTRUCTIONS TO CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. USE BLUE PEN ONLY.

Q.No	Description	Weightage
1	a) Draw the atomic structure of germanium and explain what happens when it is doped by a pentavalent impurity. b) Give the concept of semiconductors and insulators using energy band diagram.	13 07
2	a) List the differences between ideal and practical voltage sources. b) Mention some active and passive components. c) Define potential barrier and diffusion current.	08 04 08
3	a) Describe the mechanism of current flow in a pn-junction when it is reverse biased. b) Define the dynamic resistance of a diode. c) What is zener breakdown? Explain	10 04 06
4	a) Draw the circuit diagram of a bridge rectifier. b) Define ripple factor and rectification efficiency. c) Explain the role of capacitor and inductor as a filter.	05 07 08
5	a) Describe the mechanism of current flow in a pnp transistor. b) Draw and explain the output characteristics of a transistor in CE-configuration.	11 09
6	a) How is transistor used as an amplifier in CE-configuration? Explain b) Give the concept of DC-load line.	10 10
7	a) What is the need of biasing a transistor? Explain b) Draw the circuit diagram of a single stage amplifier circuit with brief explanation of each circuit element. What is the role of emitter capacitor in the circuit?	06 14
8	a) List all applications of FET. b) Explain the operation of MOSFET in depletion mode.	06 14
9	a) Mention advantages of C-MOS b) Differentiate between UJT and BJT c) Draw the FET amplifier circuit	06 08 06
10	Give a brief explanation of any two of the following a) Zener diode as a voltage regulator b) Any one transistor biasing circuit. c) List all current relations of a transistor.	10 10 10

MS marks
50

ROLL NO. :

861701160

CLASS : 2ND SEMESTER.

BRANCH : ALL BRANCHES.

SUBJECT : ENGLISH AND COMMUNICATION SKILLS – II.

TIME : 3 HOURS

MAX. MARKS: 100

INSTRUCTIONS TO CANDIDATE:-

- i. ATTEMPT ALL QUESTIONS.
- ii. USE BLUE PEN ONLY.

Q1. Give the theme of the story "The portrait of the lady." /

(15)

(OR)

Discuss some of the social & cultural contexts in "A Doll's House?"

Q2. Give the summary of the poem "All the World's a stage".

(10)

(OR)

Give the main idea of the poem Say not, the struggle Nought Avileth.

Q3. Answer the following questions. (Do any two)

(10)

- (a) Give the character sketch of the writer's Grandmother.
- (b) What are the two social class descriptions in "the doll's house"?
- (c) Describe the situation of refugees and local inhabitants at that time.

Q4. Precise the following passage and give it a suitable heading.

(10)

One of our most difficult problems is what we call discipline and it is really very complex. You see, society feels that it must control or discipline the citizen, shape his mind, according to certain religious, social, moral and economic patterns. Now, is discipline necessary at all? Please listen carefully. Don't immediately say YES or NO. Most of us feel, especially while we are young, that there should be no discipline, that we should be allowed to do whatever we like and we think that is freedom. But merely to say that we should be free and so on has very little meaning without understanding the whole problem of discipline.

The keen athlete is disciplining himself the whole time, isn't he? His joy in playing games and the very necessity to keep fit makes him go to bed early, refrain from smoking, eat the right food and generally observe the rules of good health. His discipline and punctuality is not an imposition, but a natural outcome of his enjoyment of athletics.

Q5. Write a letter to a friend congratulating him on getting a new job.

(10)

(OR)

Write a letter to the municipal commissioner for the construction of damaged roads of your locality.

Q6. Write a news report on a road accident you witnessed.

(10)

(OR)

Draft a press release about the Swach Bharat Abhiyan campaign held in your college.

Q7. Do as directed

(A) Change the narration:

- (a) The man said , "I must go as soon as possible."
- (b) He said to me,"Where are you going?"
- (c) "Hurry up,"she said to us
- (d) The poor man exclaimed,"will none of you help me?"
- (e) "Don't play on the grass,boys,"she said.



(05)

(B) Change the voice:

- (a) They are building a house.
- (b) Somebody has stolen my purse.
- (c) Who wrote this letter?
- (d) He was writing a book.
- (e) Somebody cooks meal every day.

(05)

(C) Translate the following:

(05)

- (a) Constant
- (b) Conductor
- (c) Alum
- (d) Boiler
- (e) Combustion
- (f) Spring balance
- (g) Element
- (h) Chain
- (i) Bridge
- (j) Acceleration

Q8. Explain the following. (Do any two)

(20)

- (a) Modes of communication.
- (b) Importance of body language in effective communication.
- (c) Humor in communication.

ROLL NO. : 911

861701125

CLASS : 2ND SEMESTER.

BRANCH : ALL EXCEPT (OMCA / T&T / FD / GT / MLT).

SUBJECT : APPLIED MATHEMATICS - II.

TIME : 3 HOURS

MAX. MARKS: 100

INSTRUCTIONS TO CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. QUESTION NO. 10 MUST BE ATTEMPTED AS PER SCHEME.
- iii. USE BLUE PEN ONLY.

Q1. Write the appropriate answers for the following:

1. If $y = e^x$, then $\frac{d^2y}{dx^2} = \dots$.

2. Compute the limit: $\lim_{x \rightarrow 1} \left(\frac{x^2-1}{x^2+3x-4} \right)$

3. The tangent to a given curve is parallel to x-axis at the point where $\frac{dy}{dx} = \dots$.

4. Slope of normal =

5. $\frac{d}{dx} (\tan^{-1} x) = \dots$

6. Find $\int (3x^2 + x^4 - 2x^5) dx$

7. The mean of first n natural numbers is

8. Find the integration of $\log x$.

9. What is a differential equation?

10. Evaluate $\int \frac{1}{\sqrt{1-x^2}} dx = \dots$

Q2. (a) Evaluate the limit $\lim_{x \rightarrow 0} \frac{\sqrt{1+x} - \sqrt{1-x}}{x}$.

(b) Differentiate from First principle the function $\sin x$ w.r.t 'x'.

Q3. (a) $\sqrt{x} + \sqrt{y} = 5$ Find the value of $\frac{dy}{dx}$ at (4, 9).

(b) Differentiate the function $\sin^{-1}(3x-4x^3)$ w.r.t 'x'.

Q4. (a) Evaluate $\int_0^{\frac{\pi}{2}} \cos^3 x dx$

(b) Evaluate $\int \frac{2x+1}{(x+1)(x-2)} dx$.

Q5. (a) Evaluate the integral $\int e^{2x} \sin 3x dx$.

(b) Integrate the function w.r.t 'x' $\sqrt{x}(x^2+2x+3)$.

K.T.O.

Q6. (a) Solve the differential equation: $(x^2 + y^2) \frac{dy}{dx} = xy$.

(b) Solve the differential equation: $\frac{dy}{dx} + y \cot x = 2 \cos x$.

Q7. (a) Find the mean from the given data:

Class interval: 0-7	7-14	14-21	21-28	28-35	35-42	42-49
Frequency : 19	25	36	72	51	43	28

(b) Calculate the median from the following table:

Variables: 2 4 6 8 10 12 14 16

Frequency: 5 8 13 15 16 11 6 4

Q8. (a) Find out the standard deviation for the following data 5, 8, 7, 11, 9, 10, 8, 2, 4, 6, 7.

(b) Integrate $\int x^3 \log x dx$.

Q9. (a) Differentiate $\frac{x^2 - 7x}{x - 5}$ w.r.t 'x'.

(b) Find the minimum value of the function $y = x^2 + 4x + 1$.

NEW SCHEME

Q10. (a) Solve the differential equation: $\frac{dy}{dx} = e^{x-y} + x^2 e^{-y}$

(b) Differentiate $\tan^2 x$, w.r.t. $\cos^2 x$.

OLD SCHEME

Q10. (a) Evaluate $\int \frac{\sin^3 x - \cos^3 x}{\sin^2 x \cos^2 x} dx$

(b) Differentiate $\cos 6x \cos 4x$ w.r.t x.

ROLL NO. :

861701337

CLASS : 2ND SEMESTER (NEW SCHEME)

BRANCH : I&C / COMP / IT / E&C / MED. ELTX.

SUBJECT : BASIC ELECTRICAL.

TIME : 3 HOURS

MAX. MARKS: 100

INSTRUCTIONS TO CANDIDATE:-

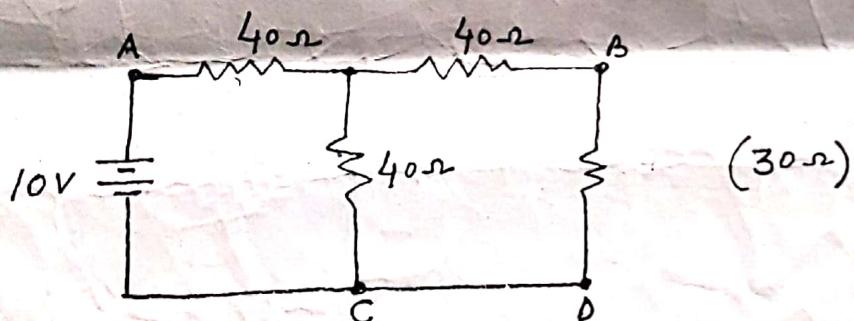
- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. USE BLUE PEN ONLY.

Q1. a) Explain the construction and principle of Nickel – Cadmium cells. (10)

b) Explain how Lead – Acid batteries are charged. (10)

Q2. a) State and prove Kirchhoff's current and voltage laws. (10)

b) In a circuit shown below, transform star ABC to Delta and then apply Thevenin's theorem to find the voltage across 30 ohm resistance. (10)



Q3. a) Explain the effect of alternating voltage applied to pure inductive circuit. (10)

b) Give the representation of sinusoidal quantities by phasor diagram. (10)

Q4. a) Explain what happens when alternating voltage is applied to RC circuit. (10)

b) Define conductance, susceptance, admittance and impedance. Also write their units. (10)

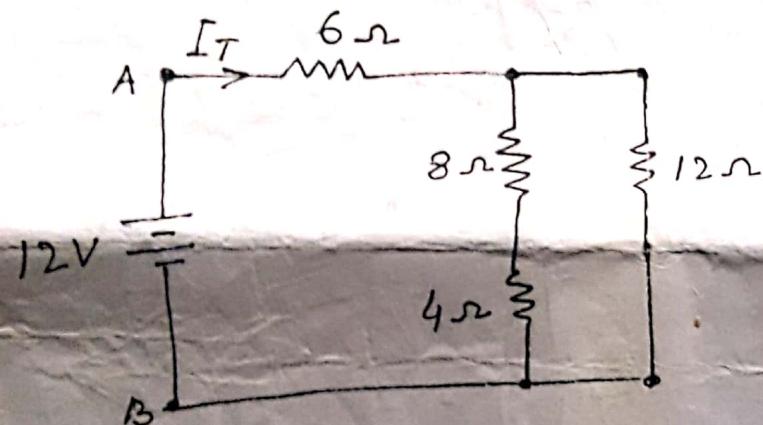
Q5. Draw the block diagram of thermal power plant and explain the function of each block. (20)

Q6. a) Draw the symbol of voltage source. Explain the characteristics of ideal and practical voltage source. (10)

b) Give comparison between electric and magnetic circuits. (10)

K.T.O

- Q7. a) Derive an expression of energy stored in an inductor with the help of diagram. (10)
 ✓ b) Define cycle, frequency, time period and amplitude. (10)
- Q8. a) Explain self and mutual inductance. (10)
 ✓ b) Write a short note on solar cells. Write their application areas. (10)
- Q9. a) Derive an expression for power in pure capacitance. (10)
 ✓ b) Explain magneto motive force. (10)
- Q10. a) For the circuit calculate the total current (I_T) (10)



✓ b) State and prove Norton's theorem. (10)

V.A73.

$$\begin{array}{c} 12+12 \\ \diagdown \quad \diagup \\ 2 \quad 2 \\ \diagup \quad \diagdown \\ 2 \quad 4 \end{array}$$

(10)

ROLL NO. :

861701123

CLASS : 2ND SEMESTER.

BRANCH : ALL EXCEPT (WT / TT / OMCA / T&T / FD / GT / MLT).

SUBJECT : APPLIED PHYSICS - II.

TIME : 3 HOURS

MAX. MARKS: 100

INSTRUCTIONS TO CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. USE BLUE PEN ONLY.

~~Q1.~~ (a) Define power of a lens. Write its unit. Find the power of a lens whose focal length is 2cm.

(b) Explain total internal reflection. What are the conditions required for it? (10, 10)

~~Q2.~~ (a) Write the properties of electric lines of force.

(b) State and explain coulomb's law in scalar form. Define unit of charge from coulomb's law. (10, 10)

~~Q3.~~ (a) Define current and its unit. What are different types of current?

~~(b)~~ Explain the working principle of Wheatstone bridge. (10, 10)

Q4. Explain the construction and working of Moving Coil Galvanometer. (20)

Q5. (a) Explain spontaneous emission and stimulated emission.

(b) Write the engineering and medical applications of lasers. (10, 10)

~~Q6.~~ (a) Explain the construction and working of p - n junction diode in forward bias and draw its characteristics.

(b) Explain the construction and working of Full Wave Rectifier. (10, 10)

Q7. (a) A surface of area $10m^2$ placed in an electric field of $10N/C$. Find maximum electric flux linked with it.

(b) Derive expression for electric field intensity due to a point charge. (8, 12)

Q8. (a) Explain the effect of temperature on resistance. Define coefficient of resistance and write its expression.

(b) How much energy in KWh consumed by an electric bulb of 100W in 1 day? (12, 8)

Q9. (a) Find magnitude of induced emf produced in a coil having 100 turns if flux linked with it changes at the

rate of 10 Wb/s .

(b) Derive expression for force acting on a charge moving in uniform magnetic field. (10, 10)

Q10. (a) Write short notes on ionization potential, excitation potential and population inversion.

(b) An object is placed at a distance of 3cm from the convex lens and its image is formed at a distance of 1cm

from the lens. Find the focal length of lens. (12, 8)

ROLL NO.: *47*

8617023085

CLASS : 3RD SEMESTER (NEW SCHEME).

BRANCH : COMPUTER ENGINEERING / INFORMATION TECHNOLOGY.

SUBJECT : MULTIMEDIA AND APPLICATIONS.

TIME : 3 HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. USE BLUE PEN ONLY.

Q1: (a) What is Multimedia? How multimedia is used in education and training?
(b) Write a short note on OCR.

Q2: (a) What is compression? Explain its various types?
(b) What do you mean by file format? Write down various audio and video file formats.

Q3: What is authoring? Write a short note on icon based and time based authoring tools. *48/2*

Q4: (a) What do you mean by frame rate? Write down the steps for frame by frame animation.
(b) Explain various selection tools used in Photoshop.

Q5: (a) Explain magic eraser tool how it is different than simple eraser tool?
(b) Write down the important features of Photoshop.

Q6: (a) What do you mean by virtual reality? How it is useful?
(b) Difference between CD and DVD.

Q7: (a) Write short note on story boarding.
(b) What do you mean by multimedia operating system?

Q8: (a) Write down the advantages of MIDI music.
(b) Write short note on multimedia networks.

Q9: (a) What are the various compression techniques used to reduce the file size?
(b) What is the difference between bitmap and vector graphics?

Q10: Write short notes on following.
a) Animation
b) Hyper graphics
c) Sampling rate
d) Action script
e) Eye dropper tool

NO. :
47

8617023083

CLASS : 3RD SEMESTER (NEW SCHEME).

BRANCH : COMPUTER ENGINEERING / INFORMATION TECHNOLOGY.

SUBJECT : COMPUTER PROGRAMMING USING C.

TIME : 3 HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. USE BLUE PEN ONLY.

Q1: Explain in detail the concept of Flowchart, Algorithm and Computer Programs. Describe how does a computer Machine understands a Computer Program.

Q2: What is the size and range of values of int, unsigned int, short, signed int, long, float, double and char data types.

Q3: Write a program in C to find and display the largest value among 5 numbers which the user should enter at run time. Use if-else.

Q4: Write a program in C to display the following Structure dynamically asking the user for the highest odd number of in the central line.(e.g 7 in the case shown). (Use for Loop)

```

    1
    1 3
    1 3 5
    1 3 5 7
    1 3 5
    1 3
    1
  
```

Q5: a) What are Functions in C, For what purpose they are used.

b) Write a Program in C to Calculate the Simple Interest using functions.

Q6: Write a Program in C which creates an array of 10 integers, asks the user to enter the values for the 10 integers at run time, and stores them in this array, sort and store the array in ascending order and then displays the sorted array.

Q7: a) Using Pointers write a program in C to find whether a number given by user at run time is divisible by 13 but not by 17.

b) Write a program in C to calculate the LCM of 2 numbers using pass by reference parameter method.

Q8: Write a Program in C which creates a new file test.txt for writing and writes Hello World in it, Closes the file , reopens the file and reads the contents of the file, finds the last location of the character 'o' in the text(assuming first character is at position 1) and appends the file test.txt with that number.

Q9: What is a structure in C? Explain its need and importance. Write a complete Program to illustrate the functionality of structure.

Q10: Explain the concept of Strings in ANSI C. What are the various string handling functions. Write a Program in C to illustrate these functions.

ROLL NO. : 47 KARUV

RollNo.

8617023076

CLASS : 3RD SEMESTER (NEW SCHEME).
BRANCH : COMPUTER ENGINEERING / INFORMATION TECHNOLOGY.
SUBJECT : OPERATING SYSTEM.

TIME : 3 HRS.

INSTRUCTIONS FOR CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. USE BLUE PEN ONLY.

MAX. MARKS: 100

Q1: Explain in detail the concept, need and importance of operating Systems.

Q2: a) What is a Process? Explain in detail the various states of a process.

b) What is Process Scheduling and with respect to it, explain the terms job queue, ready queue, device queue and queuing diagram.

Q3: a) Explain in detail the First Come First Serve CPU Scheduling.
b) Explain in detail Round Robin CPU Scheduling.

Q4: a) Explain in detail the concept of Process Synchronization.
b) Explain the various types of File Systems.

Q5: a) Explain in detail the concept of Logical Address Space and Physical Address Space in Operating System.
b) Explain in detail the concept of Fragmentation.

Q6: What is paging, explain in detail. Illustrate using an example.

Q7: Explain in detail the concept of Deadlock in Operating System, the conditions of Deadlock, the methods to avoid and prevent deadlock.

Q8: Explain in detail the structure of Linux Operating System.

Q9: Explain the fork() and exec() Process Model of Linux.

Q10: How and for what are the following Linux Commands used?
ls, who , cat, more, mv, tail, grep, kill, wc , chmod.

ROLL NO 17M7..... KARU

861702306

CLASS : 3RD SEMESTER (NEW SCHEME).
BRANCH : ELTX & COMM / MED ELTX / COMP / IT / INST & CONT.
SUBJECT : DIGITAL ELECTRONICS.

TIME : 3 HRS.

INSTRUCTIONS FOR CANDIDATE:-

MAX. MARKS: 100

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. USE BLUE PEN ONLY.

Q.No	Description	Weightage
1	a) List 05 comparisons of analog and digital signals. b) Subtract 55.5 from 95.5 using 1's complement method of subtraction.	12
2	a) Convert 79.5 from decimal to hexadecimal and binary. b) Convert 1000111.10 from binary to hexadecimal and decimal. c) Convert 7FAC4 from hexadecimal to binary.	08 10 10
3	a) What is an ASCII code? Explain with example. b) Define odd and even parity. How is parity used for error detection of a digital data?	11
4	a) How is NOR gate used as an exclusive OR gate? Draw the necessary logic diagram. b) List the 04 characteristic features each for TTL NAND and C-MOS logic gates.	09 10
5	a) List important Boolean postulates. b) Verify 2 nd law of Demorgan's. c) Solve the following expression using 4-variable Karnaugh map $F(w,x,y,z) = E(0,2,4,6,8,10) + d(1,3)$	20
6	a) Show that a full Adder circuit can be constructed using 2-half adders and an OR gate. Draw the truth table and logic diagram. b) Draw the block diagram of one sub tractor IC.	08 12
7	a) List 02 functions each of multiplexer and a decoder. b) Draw and explain the circuit operation of a 3-to-8 decoder circuit.	20
8	a) Differentiate between level clocked and edge triggered flip flops. b) Describe the operating principle, truth table and logic diagram of edge triggered JK-flip flop. c) Draw the logic diagram of a Toggle flip flop.	12 4 4
9	a) Differentiate between a synchronous and asynchronous counter. b) Draw the logic diagram of a 3-bit asynchronous counter with timing diagram.	08 12
10	Give a brief explanation of any two of the following a) Shift left register. b) Successive approximation method of A/D conversion. c) Working principle of D/A converters.	10 10 10

ROLL NO. : Naivey

8617023075

CLASS : 3RD SEMESTER (NEW SCHEME).

BRANCH : COMPUTER ENGINEERING / INFORMATION TECHNOLOGY.

SUBJECT : RELATIONAL DATABASE MANAGEMENT SYSTEM.

TIME : 3 HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:-

- i. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- ii. USE BLUE PEN ONLY.

Q1: a) Explain in detail the concept of Relation, Database and Relational Database Management System. 10
 b) Explain the role of Database Administrators, Database Designers, System Analysts, Application Programmers and End Users in a Database Management System. 10

Q2: a) Explain the various types of Database Management Systems other than RDBMS. 10
 b) Explain in detail the 3-level architecture of DBMS. 10

Q3. a) Explain in detail the concept of Data Independence and its types. 10
 b) Explain the concept of 2-Phase Working Protocol in Database Security. 10

Q4: What is a Data Model? Explain in detail the various types of Data Models. 20

Q5: What is ER Model? Explain the terms Entity, Entity Set, Attribute, Domain of Attribute, Simple Attribute, Derived Attribute, and Composite Attribute. Also draw the symbol of each. 20

Q6: What is a Key in Relational Model? Explain in detail the concept of Super Key, Primary Key, Unique Key, Candidate Key and Foreign Key. 20

Q7: Consider a Relation R (A, B, C, D, E, F, G) with EFG as its Primary Key. Besides the following functional dependencies hold:

$$\begin{array}{l} FG \rightarrow A \\ D \rightarrow BCG \end{array}$$

Normalize the relation upto BCNF. Write all steps clearly and explain reason of every step of normalization. Assume the relation is already in 1NF. 20

Q8, Q9 and Q10 are based on the following relations:

Employee (ID, name, salary, designation, deptid, ControllingOfficerID)

Where ControllingOfficerID is the foreign key to ID attribute of same Employee Table and deptid is foreign key attribute to deptid of following relation

Department (deptid, DeptName, DeptLocation, DeptHeadID)

: Write SQL Queries to

(4)

- a) Delete both the tables completely from database. (4)
- b) Create both the tables Employee with proper data types and integrity constraints(primary key as well as Foreign Key) (8)
- c) Insert any two tuples in Department Table in a single query. (3)
- d) Insert any 3 tuples in the Employee table in three separate queries (3)
- e) Update The Controlling Officer Head of employee with Id ='1' from '5' to '6'. (2)

K.T.O

Q9:

- a) Get the Names and ID of all Employees of Department with cse as deptid. (3)
- b) Get the Salary ,Name of all employess whose designation is Prinicpal. (3)
- c) Get the Id and name of all employees whose salary is more than 10000 or whose desgination is HOD. (6)
- d) Get all the information of all employees who are not HOD and Whose name contains 'JOHN'. (8)

Q10:

- a) Get the name and Id of all employees whose Controlling Officer Name is 'JOHN'. (10)
- b) Get ID, Name ,Department Name and department location of all employees.(if any employee has a null value in deptid then the Department Name and Location Should come as NULL). (10)

861801050

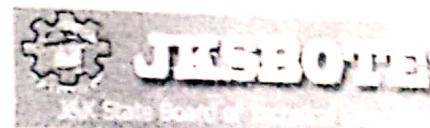
RollNo: U9

Branch: Computer,IT Sub: Data Structure using C

Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 4

Instructions: 1) Attempt any 5 questions.

2) Use only blue pen.



Q1 a: Explain the concept of top down and bottom up design. (10)

a: Explain the concept of Pointers in C in detail. (10)

a: Write a program to insert/delete/search an element in an array. (10)

b: How uni-dimensional and multi-dimensional arrays are stored in memory? Explain. (10)

c: What do you mean by a linked list? Explain which of these linked lists are implemented and represented in memory. (20)

Q4: Write a complete program in C to implement Doubly Linked List and various features associated with it. (20)

Q5 a: Explain the circular linked list. How insertion and deletion takes place in this list? Explain (10)

b: What is a Stack and What are the various applications of the stack structure? (10)

Q6 a: Define recursion. Write a program in C to illustrate the concept of recursion (10)

b: What is de-queue? Explain the various operations on de-queue. Write a program to illustrate these operation on de-queue. (10)

Q7 a: What is circular queue? Write a Program in C to implement Circular Queue. (10)

b: Explain the concept of Pre-order and Post Order Traversal in a Binary Tree. (10)

Q8: What do you mean by binary search tree? Explain the operations associated with binary search tree and explain the operations of adding a node and deleting a node from a binary search tree. Use a suitable example for illustration. (20)

Q9 a: Explain searching. Write algorithm on linear searching. (10)

b: Write and Explain insertion sort algorithm. (10)

Q10 a: Write and Explain Quick Sort Algorithm (10)

b: Apply Quicik Sort ALgorihtm on the following given list of elements :

56, 34, 67 ,68, 87, 78, 9,45. (10)

Write and explain all intermediate steps .

Branch: Computer/IT Sub: Object Oriented Prog. Using C++

Time: 3 hrs. Max marks: 100 Scheme: New Sem: 4

Instructions: 1) Attempt any 5 questions.

2) Use only blue pen.



Q1

- a: Explain concept of object oriented programming in detail. (10)
 b: Write a short note on data encapsulation in object oriented programming. (5)
 c: Define class and object. (5)

Q2

- a: Write a short note on pointers and their uses. (5)
 b: Write a program in C++ that asks the user to enter an element in an array and sort the elements in descending order. (10)
 c: Write the output of the following statements { $x=5; x++; cout << x << endl; cout << ++x << endl;$
 $cout << x << endl; cout << +x << endl; cout << x << endl; } (5)$

Q3

- a: What do you understand by data types in programming? Explain in detail. (10)
 b: Differentiate between for loop, while loop and do-while loop in programming languages. (10)

Q4

- a: What is a constructor. Write a program which demonstrates the use of a particularized constructor? (10)
 b: Write a program to find sum of two integer numbers using a class. (10)

- Q5 a: What are inline functions? Write a program to demonstrate use of inline function. (5)
 b: Explain the friend function with an example. (10)
 c: write a short note on friend classes. (5)

- Q6: What is operator overloading? Write a program to overload binary + operator. (20)

- Q7 a: Explain the concept of virtual base classes with the help of an example. (10)
 b: Differentiate between public derivation, private derivation and protected derivation with respect to inheritance in oops. (10)

Q8

- a: What is function call binding? What are its types? How late binding is achieved. (10)
 b: List various types of polymorphism. Briefly explain all the types. (10)

- Q9 a: Differentiate between late binding and early binding with respect to polymorphism in oops. (10)
 b: Define streams. Explain the use of various stream classes in file handling in C++. (10)

- Q10 a: Explain the meaning of following functions: a) eof() b) good() c) fail() d) bad() (10)
 b: What is an array container? Name various member functions of array container. (5)
 c: Write a short note on standard template library (STL). (5)

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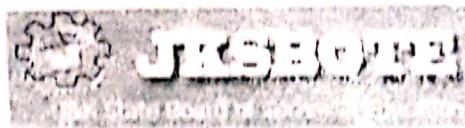
RollNo:

Branch: E&C, Medical Eltx., Comp, IT Sub: Microprocessors
Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 4
Instructions: 1) Attempt any 5 questions.
2) Use only blue pen.



- Q1** a. Define microprocessor. What is difference between microprocessor and microcomputer?
List five applications of microprocessor. (10)
- b**: Draw the pin diagram of microprocessor 8085. (10)
- Q2**: Draw the block diagram of 8085 Microprocessor. Explain function of various blocks. (20) *74081 246 ins*
- Q3 a**: What do you mean by bus? Explain the bus organization of 8085 microprocessor. (10)
- b**: Define the terms machine language, assembly language, machine code and mnemonic code. (10) *D TG
R-R
R-D
A-G
X-L*
- Q4 a**: Explain the instruction set of 8085 microprocessor. (10) *- maskable
BS
exception
Calls
stack op
16 bit
5-P*
- b**: Explain the function of assembler, compiler and interpreter. (10) *a-Z-E
SI-IP
mn-
49-dest*
- Q5 a**: Write a program to multiply two 8 bit numbers by repetitive addition. (10)
- b**: What are various addressing modes in 8085 explain with examples in brief ? (10)
- Q6 a**: Explain the use of sub-routines in 8085 Programming. (10)
- b**: Explain how a stored program is executed by 8085. (10)
- Q7 a**: Write Assembly language program to arrange ten numbers in ascending order. (15)
- b**: What is maskable and Non Maskable interrupt. (5)
- Q8** Draw the block diagram of 8255 PPI chip. Explain its different modes of operation in brief. (20) *a-Z-E
SI-IP
mn-
49-dest*
- Q10** Write Short notes on (20)
i) Fetch and execute cycle
ii) Data transfer techniques

Branch: Computer/IT Sub: Computer Networks.
Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 4
Instructions: 1) Attempt any 5 questions.
2) Use only blue pen.



- Q1 a:** What do you mean by network topology? discuss the various physical topologies? What are the main consideration while selecting a topology? (10)
- b:** Differentiate between i) client server model and peer to peer model ii) LAN, MAN, WAN (10)
- Q2 a:** What are various functions of physical layer in OSI network model? (5)
- b:** What are the functions of data link layer? Discuss in brief. (10)
- c:** Write a short note on congestion. (5)
- Q3 a:** Explain physical addressing and logical addressing concepts in computer networks. (10)
- b:** What do you understand by loop back testing in computer networks? (10)
- Q4 a:** Write short note on i) loopback ii) subnetting iii) ip address format (10)
- b:** Discuss any one intranet protocol in detail. (5)
- c:** Write a short note on IPX/SPX protocols. (5)
- Q5 a:** Differentiate between thicknet and thinnet specification of Ethernet. (10)
- b:** What is token? Explain the mechanism of token passing in token ring and token bus. (10)
- Q6 a:** Write a short note on 1000 mbps (gigabit Ethernet). (5)
- b:** Explain DSL (digital subscriber line) technology. (10)
- c:** Discuss the working principle of a modem. (5)
- Q7 a:** What do you mean by network connectivity? Discuss any two network connecting devices. (10)
- b:** What do you understand by print services in computer networks? (5)
- c:** Describe various print services in networking. (5)
- Q8 a:** Write short note on raid management and mirroring. (10)
- b:** What is encryption? What is the need of encrypting a message? Discuss its various types. (10)
- Q9 a:** Discuss Huffman coding with the help of an example. (10)
- b:** Explain the following commands: i) netstat ii) tracert. (10)
- Q10 a:** What do you mean by troubleshooting? List the various steps involved in it. (10)
- b:** What is Wi-Fi? How does it differ from Bluetooth? (5)
- c:** What do you understand by Bluetooth? (5)

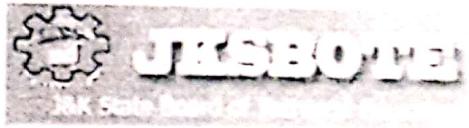
861801016

RollNo:

**Branch: E&C, Medical Electronics, Computer, IT, Travel & Tourism,
MLT Sub: GSED**

Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 4

Instructions: 1) Attempt any 5 questions. 2) Use only blue pen.



Q1 a: Differentiate learning and lifelong learning. (5)

B: What is the local scenario of gsd? (5)

C: What is emotion and explain its importance? (10)

X Q2 a: Explain the role of personal and business correspondence in an organization. (10)

b: Explain anxiety and steps to overcome it. (10)

Q3: What is communication in group? Discuss conversation and listening skills. (20)

Q4 a. What is difference between management and administration? (10)

b: Define task management. Explain the closeout phase of task management. (10)

Q5 a: What are the prerequisites for problem solving? Explain. (10)

b: What is meaningful learning ? Explain its role in problem solving. (10)

Q6 a: What are the steps for the preparation of a report on a plan to set up a small scale unit? (10)

b: What strategy should be adopted for entrepreneurship? (10)

Q7 a: Explain the role of ssi in economic development. (10)

b: What are the different qualities of an entrepreneur? (5)

c: Discuss the assessment of demand and supply in potential areas. (5)

Q8: Write a note on techno-economic feasibility report. (20)

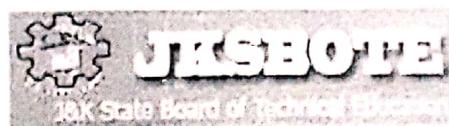
Q9: What is project report ? Explain in detail steps involved in the preparation of project report. (20)

Q10: Explain the role of entrepreneurial support system for development and growth of an entrepreneur. Explain what functions dic's and sidhi perform for the small scale industries and business organizations. (20)

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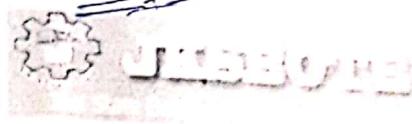
RollNo: 47

Branch: Computer,IT Sub: Software Engineering
 Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 4
 Instructions: 1) Attempt any 5 questions.
 2) Use only blue pen.



- Q1:** Explain software development life cycle in detail? (20)
- Q2** Explain complexity? What is McCabe's complexity? (20)
- Q3**
- a: What is cost model? Explain in detail. (10)
 - b: Write short notes on: (i) software scope (ii) software resources (10)
- Q4**
- a: What is cost estimation? How is it done and what are its factors. (10)
 - b: How the Rayleigh's distribution curve can be used to estimate the staffing level of any project. (10)
- Q5**
- a: What is software-sizing problem? What are the different approaches followed to solve this problem? (10)
 - b: What is Problem Analysis ,Explain in detail. (10)
- Q6 a:** Explain the use of operational semantic. (5)
- b:** Write short note on stakeholder issue and developer issue. (5)
- c:** Define SRS. Write down the characteristics of a good SRS? (10)
- Q7 a:** What are the objectives of design activity? (5)
- b:** How will you explain documentation of software product which is being manufactured. What are its guidelines? (10)
- c:** Explain structured coding technique. (5)
- Q8**
- a: Write a short note on black box testing in context to program testing. (10)
 - b: Explain the difference between stub and driver. (10)
- Q9 a:** Differentiate between preventive and corrective maintenance. (10)
- b:** Suppose you are given to maintain a software, what necessary steps you take to maintain it. (5)
- Q10 a:** Write a short note on ISO 9126 standard? (10)
- b:** Explain six sigma. (5)
- c:** Explain configuration management. (5)

Branch: IT, Computer Engineering Sub: Internet and Web Technologies
 Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 5
 Instructions: 1) Attempt any 5 questions.
 2) Use only blue pen.



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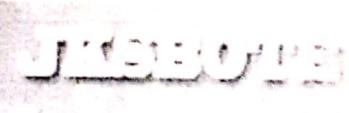
- ~~Qno1~~ a: Write short notes on:- 1) FTP 2) Video Conferencing (10)
 b Explain TCP/IP model in detail. (10)
- ~~Qno2~~ a: Write short note on: 1) Leased Line 2) VSAT (10)
 b: Explain in brief about RF links. (10)
- ~~Qno3~~ a: Write short notes on: (i) http Protocol (ii) Internet explorer (10)
 b What is a proxy server and explain its need in web technology? (10)
- Qno4 a: Explain firewall and also explain its types? (10)
 b Write down the various techniques of encryption and decryption? (10)
- ~~Qno5~~ a: Give html code for designing a form, which contain one textbox, one checkbox, one option button and one command button ? (10)
 b What are html frames? What are they used for? Illustrate with the help of an example. (10)

Qno6: Write a html code to create the table shown below: (20)

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
				21
				22

- Qno7 a: How will you embed a Java script code in html? (10)
 b What do you understand by Java script form validation? (10)
- Qno8: How to validate forms using Java script. Explain with example. (20)
- ~~Qno9~~ a: What is PHP? Explain various operators used in PHP? (10)
 b Explain the use of PHP, \$_GET and \$_POST variables in html forms. (10)
- Qno10 a: Explain various features of Dreamweaver. (10)
 b Write a short note on CSS styles in Dreamweaver (5)
 c Explain basic features of Dreamweaver ? (5)

861802110

Rollno:
 

Branch: Computer Sub: Computer Peripheral and Interfacing

Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 5

Instructions: 1) Attempt any 5 questions.

2) Use only blue pen.

 Qno1 a: Differentiate between raster scan and vector graphic. Discuss briefly their relative advantages. (10)

b: What do you understand by video display adapters. Explain any two. (10)

 Qno2 a: Give the working principle of CRT with the help of diagram. (10)

b: Explain different types of motherboard in detail. (10)

Qno3 a: Differentiate between serial port and parallel port. (10)

b: What do you mean by motherboard and what are its basic functions? (10)

Qno4 a: Describe in brief hard disk drive. Mention the internal components within the hard disk drive. (10)

b: Explain constructional features and working of hard disk drive (10)

 Qno5 a: Explain the disk drive and flash drive. (10)

b: Explain the working of inkjet printer? (10)

 Qno6 a: Mention any five input and output devices each. (10)

b: Define printer. Write down the difference between impact and non-impact printers. (10)

Qno7 a: Explain RISC and CISC architecture. (10)

b: Explain the working of SMPS in detail. (10)

Qno8 a: Give the importance of UPS. Enlist its types. (10)

b: Explain various BIOS services. (10)

Qno9 a: Explain the working of BIOS with its functions. (10)

b: Explain the cost performance analysis while procuring the computer. (10)

Qno10: Explain the following terms:-

- (A) Bluetooth
- (B) Wi-fi
- (C) WiMax
- (D) Digital camera
- (E) Web camera

1/6
86180265

Kareem
Rollno:

Branch: IT, Computer Engineering Sub: Java Programming

Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 5

Instructions: 1) Attempt any 5 questions.

2) Use only blue pen.



Qno1 a: List and explain various features of java programming. (10)

b: Give the history of java programming. (10)

Qno2 a: what are arrays? Explain various types of arrays with examples. (10)

b: What are command line arguments? Explain. (10)

Qno3 a: Describe the use of public, private and protected access specifiers in java programming. (10)

b: Explain the terms encapsulation and polymorphism. (10)

Qno4: Explain java interface in detail. (20)

Qno5 a: How an exception is thrown and caught in java programming? (10)

b: What is exception handling? How it is to be achieved in java? Show an example of throw-statement to be used through exception handling. (10)

Qno6: Write a program to print the area and perimeter of a triangle having sides of 3, 4 and 5 units by creating a class named 'Triangle' without any parameter in its constructor. (20)

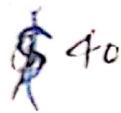
Qno7: Write a program for the division of two numbers using exception handling in java. (20)

Qno8: What is synchronization? Explain the lifecycle of a thread in detail. (20)

Qno9 a: Differentiate between local and remote applets in java programming. (10)

b: What are java applets? Explain in detail the life cycle of applets. (10)

Qno10 a: What is JDBC? Write down the steps to connect database with java application using JDBC concept. (20)

 40

761802164

Rollno:


Branch: Computer Engineering Sub: Wireless Communication

Time: 3 hrs. Max Marks: 100 Scheme: New Sem: 5

Instructions: 1) Attempt any 5 questions.

a) Use only blue pen.

-  Qno1 Describe the stepwise evolution of the various mobile communication systems. Compare them respectively. (20)
-  Qno2 a: What is HSCSD and Edge? (10)
b: Is 3G different or similar to UMTS? How? (10)
- Qno3 a: What is paging system? Give the technical features of paging. (10)
b: What is small scale fading? Explain. (10)
-  Qno4 a: What is handoff and explain the need of handoff? (10)
b: Explain the concept of cell splitting. (10)
- Qno5: Explain the working principle of rake receiver. (20)
- Qno6: Explain linear modulation and constant envelope modulation. Discuss the differences between the two. (20)
- Qno7 a: Explain various fundamentals of channel coding. (10)
b: Explain frequency reuse. (10)
-  Qno8 a: Differentiate between CDMA and TDMA. (10)
b: What is ISDN? Explain its various types. (10)
-  Qno9 a: Differentiate between wired and wireless network. (10)
b: Draw and explain the architecture of GSM network in detail. (10)
- Qno10 a: What is Bluetooth technology? Explain in detail. Also explain the advantages of Bluetooth technology. (10)
b: Explain RF technologies. (10)

ROLL NO. : _____

861701144

CLASS : 6TH SEMESTER (NEW SCHEME)

BRANCH : MECH / ELECT / ME / E&C / COMP / IT / ARCH / AUTO / WT / T&T / FT / GT / I&C

SUBJECT : BASICS OF MANAGEMENT.

TIME : 3 HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:-

- I. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- II. USE BLUE PEN ONLY.

- Q1. Define 'Management'. Explain the functions of management. (20)
- Q2. Define 'Values'. What is the importance of values? Explain the factors which affect the individual behaviour. (20)
- Q3. (a) Explain the hierarchical management structure. (10)
(b) Differentiate between manager and leader. (10)
- Q4. Define 'Leadership'. What are its characteristics? Explain. (20)
- Q5. Explain the salient features of Minimum Wages Act, 1948. (20)
- Q6. Define 'Human resource development'. What are its objectives? Explain. (20)
- Q7. Explain the steps involved in manpower planning process. (20)
- Q8. (a) Explain 'Just in time' concept. (10)
(b) Explain 'Total quality management.' (10)
- Q9. Define 'Customer relationship management'. What are its functions? Explain. (20)
- Q10. What is 'inspection'? Describe the functions and objectives of inspection. (20)

ROLL NO. :

861701166

CLASS : 6TH SEMESTER (NEW SCHEME)

BRANCH : COMPUTER ENGINEERING / INFORMATION TECHNOLOGY.

SUBJECT : ELECTIVE - II (NETWORK SECURITY).

TIME : 3 HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:-

- I. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.
- II. USE BLUE PEN ONLY.

Q1: Q1 What is Cyber Crime and what are cyber ethics and explain in detail the concept of ethical hacking.
Q2 Explain in detail about the IT act 2000.

Q2: a) Explain briefly about DES and RSA.
b) What is Hashing? How is it different from Encryption? What are the various hashing techniques?

Q3: Explain in detail about Virus, Worms and Trojans.

Q4: Q4 Explain in detail the different types of attacks on computer network.
Q5 Explain the concept of Phishing in detail. How can it be prevented / avoided?

Q5: What is a Firewall? Explain in detail access control policies.

Q6: Explain in detail about the teardrop attacks and counter measures to prevent them.

Q7: Q7 What is VPN? Explain in detail the connection establishment and key exchange in VPN.

Q8: Explain the various types of disasters in Computer Networks, explain the process of recovery.

Q9: What are copyrights and IPRs? Explain also about Piracy.

Q10: What is RAID? Explain the various levels of RAID.

ROLL NO. : 861701170

861701170

CLASS : 6TH SEMESTER (NEW SCHEME)

BRANCH : COMPUTER ENGINEERING

SUBJECT : INSTALLATION, MAINTENANCE AND TROUBLESHOOTING OF COMPUTER NETWORKS

TIME : 3 HRS.

MAX. MARKS: 100

INSTRUCTIONS FOR CANDIDATE:

1. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS ARE EQUAL MARKS.
2. USE BLUET PEN ONLY.

Q1: Explain in detail about the installation and maintenance of computer system.

Q2: What are the different specifications for a computer system that should be considered while purchasing a new system and describe in detail their function(s) and how their value affects the performance?

Q3: Explain in detail the functioning of hub, multiplexer, switch, bridge, router and gateway.

- Q4: a) Explain the concept of Subnetting and Supersubnetting
b) Explain the concept of Classless Interdomain Routing (CIDR).

Q4: Find the Network Mask and Network IP Address of following host IP Addresses by finding the class of IP address first if number of network bits is not given.

- i) 23.24.25.26/26 ii) 192.23.1.67 iii) 222.212.212.212/26
iv) 60.60.60.60/14 v) 98.98.98.98

Q5: Explain in detail the functions of Physical, Data link and Internet Layer of TCP/IP model.

- Q6: a) Explain in detail the 3-tier client-server architecture.
b) Explain the concept of Domain Workgroup. Write about the process of configuration.

Q7: What is Squid Proxy? Explain in detail its functioning.

Q8: Explain in detail the functions of Transport and Application Layer in computer networks.

Q9: What and how are the various hardware and software tools used for testing and correcting a network failure.

Q10: What is a manageable switch and how is it different from other types of switch. What are the various configuration parameters that can be configured in the manageable switch?

ROLL NO. :

861701165

CLASS : 6TH SEMESTER (NEW SCHEME)
BRANCH : COMPUTER ENGINEERING / INFORMATION TECHNOLOGY.
SUBJECT : VISUAL PROGRAMMING USING (NET).

TIME : 3 HRS.

MAX MARKS 100

INSTRUCTIONS FOR CANDIDATE:-

- I. ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS
- II. USE BLUE PEN ONLY.

- Q1. a) Explain in detail the client server architecture.
b) Explain in detail the architecture of .Net framework with emphasis on its elements.
- Q2. a) What are the various features of Visual Studio a for development of VB.Net Applications?
b) Explain the use of Public, Private, Protected and friend access modifiers.
- Q3. a) What are the various data types in VB.Net, write the use and range of values.
b) Explain and illustrate the use of functions in VB.Net.
- Q4. a) What are the various Exception Classes used in VB.Net, briefly explain their functions.
b) Explain the use of try, catch, throw and finally in VB.Net along with Control Flow inside the program.
- Q5. Write VB.Net Complete Code to design a front end form for registration of a new Student in a Polytechnic College. The details should comprise name (as textbox), percentage(as textbox), gender(as radio button), date of birth(as dropdown menu/calendar), branch (as dropdown menu), Year of Passing 10th Class, Percentage in 10th, Rank in Entrance Test (text box accepting only numbers), Reasons for Pursuing the course etc.
- Q6. Explain in detail Data Set, Data Adapter, Data Reader and Data Grid in ADO.NET
- Q7. What are crystal reports? Write in detail the steps to build a report in VB.Net.
- Q8. Explain what is a web service. Describe its Components viz. SOAP, UDDI and WSDL. How does a Web Service Work?
- Q9. What is ASP.Net? For What Purposes it is used? What are its various features? Write a Small Program of your choice in ASP.Net.