

**Sub- Computer Application  
Branch - Civil & Electrical Engg.**

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1. Answer all question. [4x4]  
a) What is VIRUS ?  
b) What is Network Topology ?  
c) What is internet & their service ?  
d) Difference between Algorithm and Flowchart.
2. Answer any two. [2x2]  
a) Difference between File & Folder.  
b) What is Array ?  
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**Sub- Engg. Physics**  
**Branch - Mech. & Auto Engg.**

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1. Answer all questions. [2x5]
    - a) Define two specific heat of gas.
    - b) Define mechanical equivalent of heat.
    - c) What is doppler's effect ?
    - d) Wht is co-efficient of thermal conductivity ? Write its unit & dimension.
    - e) What is snell's law ?
  2. Derive the relation between  $\alpha$  and  $\gamma$ . [5]
  3. A piece of cu-wire has a length of 100cm at 0°C. find its length in S.I. unit at 100°C if  $\gamma = 51 \times 10^{-6} / 0_c$ . [5]

**Sub- Engg. Physics**  
**Branch - Mech. & Auto Engg.**

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**Sub- Communicative English**  
**Branch - All**

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Answer all the questions.

1. Write a note on features of communication ? [5]
2. What is Barriers to communication ? Explain language & semantic barriers ? [5]
3. Write a note on effective communication ? [5]
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**Sub- Communicative English**  
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**Sub- Engg. Chemistry**  
**Branch - Civil & Elect. Engg.**

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Answer any two.

[10x2]

1. What is chemical bonding ? Describe about Ionic bond with example?
2. Explain acid base theory ?
3. Write down the composition of bronze, brass, duralumin, alnico.

**Sub- Engg. Chemistry**  
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**Sub- Basic Electronics Engg.**  
**Branch - Civil & Electrical Engg.**

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**Q.1 Answer all the question (2X5=10)**

- a) Define regulated dc power supply? Draw its block diagram?
- b) Write the function of  $C_{in}, C_e, C_c$  ?
- c) Define oscillator? Write its type?
- d) Define active and passive transducer and give its example?
- e) Define modulation and demodulation? What are the types of modulation?

**Q.2 Answer any two (5X2=10)**

- a) Draw the block diagram of CRO and explain its operation?
- b) Explain the process of AM and FM? Write the difference between AM and FM?
- C) Explain how zener diode can be used as a voltage regulator? Draw the wave form at different stages?

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**Sub- BASIC ELECTRICAL ENGINEERING**  
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- b) Define generation of electrical energy?
- c) Write 2 advantages of hydroelectric power plant?
- d) Write 2 disadvantages of thermal power plant?
- e) Define measuring instruments?
- f) What are the traditional methods of generating electricity?
- g) Write down 4 parts name of hydro power plant?
- h) Define nuclear power plant?
- i) What is deflecting torque?
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**Sub- BASIC ELECTRICAL ENGINEERING**  
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Sub- Engg. Math.  
Branch - All

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1. Answer any one. [10x1]
- a) If  $y = (\sin x)^{\cos x} + (\cos x)^{\sin x}$  then find  $\frac{dy}{dx}$
- b) If  $y = e^{m \cos^{-1} x}$  then show that  
$$(1 - x^2) \frac{d^2 y}{dx^2} - x \frac{dy}{dx} - m^2 y = 0$$
2. Answer any one. [10x1]
- a) Show that the centroid of the triangle with vertices  
A  $(x_1, y_1, z_1)$ , B  $(x_2, y_2, z_2)$  & C  $(x_3, y_3, z_3)$  is  
$$\left( \frac{x_1 + x_2 + x_3}{3}, \frac{y_1 + y_2 + y_3}{3}, \frac{z_1 + z_2 + z_3}{3} \right)$$
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2. Write a programme to compute the sum, different and product of 2 numbers using function ? [10]

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