



Bahria University, Islamabad Campus

Department of Computer Science

MID Term Examination

Class/Section: BSIT-1A,1B

(Fall 2022 Semester)

Paper Type: Descriptive

Course: **Applied Physics**

Date: 23-11-2022

Course Code: GSC 114

Time: Session -II

Faculty's Name: Saeed ur Rehman

Max Marks: 40

Time Allowed: **90 mins**

Total Pages: 2 (including this)

INSTRUCTIONS:

- I. All questions are compulsory.
- II. There are total four questions.
- III. The paper is closed book.
- IV. The students are not allowed any helping material (books, tables, formulas, etc).
- V. Use blue, black or blue-black ink only. Do NOT use lead pencil especially.

VI. Return the Question paper with your Answer sheet

Student's Name: _____ Enroll No: _____

Question-01. [Marks: $2 \times 5 = 10$]

[CLO-1,CLO-2-CLO-3]

- 1) Based on the formulations, determine the following derived quantities and its international units.
Density, Luminous Light, A force of 23N applied at 40 degree
- 2) Consider the vector A, B and C use the triangle law of method.
 - a) Graphically add the vector A, B and C by associative law of addition
 - b) Graphically draw the vector A, B and C with resultant vector R
- 3) Consider two vector are anti-parallel. How you can find the magnitude and direction of the two vectors.
- 4) Consider a node with connected five branches current by **KCL equation**($I_1 + I_4 = I_2 - I_3 - I_5$). Draw the circuit diagram with current directions entering and leaving the node.
- 5) Draw the propose block diagram of the given equation $W + \sum F_Y = F_N$

Question-02. [Marks $6 + 4 = 10$]

[CLO-3-CLO-2]

- a) Consider the following circuit in Figure-1 and find the **IT, IR2, RT, VR1, VR2 and VT**.
- b) Consider the following circuit in Figure-2 and find the voltage loop-1 and loop-2

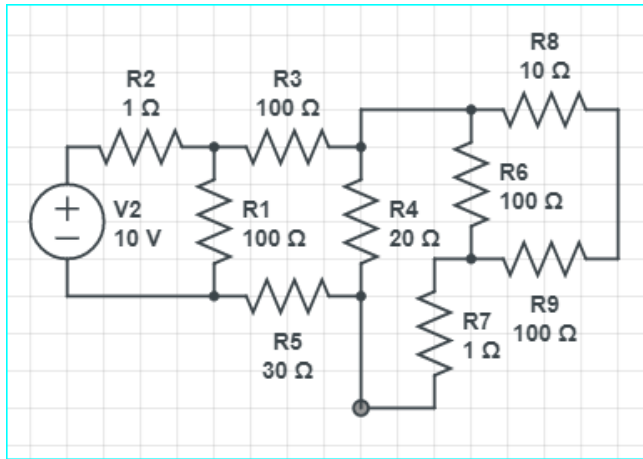


Figure-1

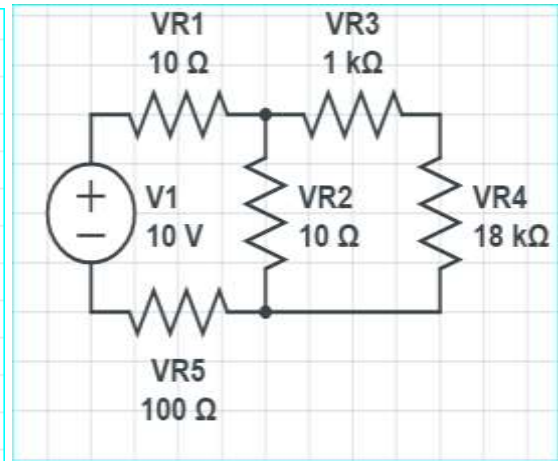


Figure-2

Question-03 [Marks 5+5=10]

[CLO-2-CLO-3]

- A man with 4500KG mass step into an elevator. Suppose that the upward tension(FN) is 280N. Find the upward acceleration starting from the rest and also draw the proposed block diagram.
- If a projectile is launched with an initial velocity 20 m/s making the angle of 45 degrees from the ground level. Derive and find the maximum height of the projectile when its launched.

Question-04: [Marks =10]

[CLO-2,CLO-3]

$A=5\hat{i}+4\hat{j}+8\hat{k}$ $B=2\hat{i}+\hat{j}+7\hat{k}$ Find the following given below.

- Magnitude of A & B**
- Find A.B**
- Magnitude of A+B**
- Angle between A and B**
- Unit vector of A and B**

The End