



# MUSLIM ARTS COLLEGE

A Muslim Minority Institution - Estd 1982

Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Recognized u/s 2(f) & 12(B) of UGC Act.  
Azhagiemandapam, Thiruvithancode - 629 174, Kanyakumari District, Tamil Nadu, India.  
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ISO 9001:2000  
Reg. No. : RQ91/2688

**Dr. G. Edwin Sheela, M.Sc., M.Phil., Ph.D.,**  
Principal

Date :

## 1.1 Curricular Planning and Implementation



  
**Dr. G. EDWIN SHEELA**  
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THIRUVITHANCODE-629 174

Internal Test Question papers

**MUSLIM ARTS COLLEGE - THIRUVITHANCODE**  
**DEPARTMENT OF PHYSICS**  
**2022-2023 EVEN SEMESTER**  
**INTERNAL TEST - I**  
**ENERGY PHYSICS**

**Class : III B.Sc**  
**Subject Code : AEPH61**

**Time : 1 hr**  
**Marks : 20**

**Part A - (2 x 1=2)**

**I Choose the correct answers**

1. Which of the following is a non-renewable resources  
(a) coal (b) forest (c) water (d) wildlife
2. Which of the following is the odd one out  
(a) Coal (b) petroleum (c) hydroelectricity (d) CNG

**Part - B (1 x 5 = 5)**

**II Answer the following by choosing either (a) or (b)**

1. a. What are renewable and nonrenewable energy sources  
(or)  
b. Explain in detail about the conventional energy resources
1. a. Write the applications of solar energy  
(or)  
b. Write a short notes on solar water heater

**Part - C (1 x 8 =8)**

**III Answer the following by choosing either (a) or (b)**

- 1.a. Explain world's reserve of commercial energy sources  
(or)  
b. Explain carbon fossil fuels

**MUSLIM ARTS COLLEGE - THIRUVITHANCODE**  
**DEPARTMENT OF PHYSICS**  
**2022-2023 EVEN SEMESTER**  
**INTERNAL TEST - II**  
**ENERGY PHYSICS**

**Class : III B.Sc**  
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**Time : 1 hr**  
**Marks : 20**

**Part A - (2 x 1=2)**

**I Choose the correct answers**

1. Photovoltaic energy is the conversion of sunlight into  
(a) Chemical energy (b) Biogas (c) Electricity (d) Geothermal energy
2. The output of the solar cell is of the order  
(a) 0.5 W (b) 1.0 W (c) 5.0 (d) 10.25 W

**Part - B (1 x 5 = 5)**

**II Answer the following by choosing either (a) or (b)**

1. a. Write the applications of solar energy  
(or)  
b. Write a short notes on solar water heater
2. a. Write the advantages and disadvantages of biomass energy source  
(or)  
b. Explain the construction and working of biogas

**Part - C (1 x 8 =8)**

**III Answer the following by choosing either (a) or (b)**

1. a. Explain the construction and working of solar cooker  
(or)  
b. Explain the different types of solar collectors

**MUSLIM ARTS COLLEGE, THIRUVITHANCODE**

**DEPARTMENT OF PHYSICS AND RESEARCH CENTRE**

**Internal examination -II (2022-23 -EVEN)**

**Class : III. B.Sc Physics**

**Digital Electronics**

**Marks: 20**

**Part- A**

**Choose the correct answer**

1. The equivalent decimal number of a maximum binary number of length one byte is  
a) 8                      b) 64                      c) 255                      d) 256
2. The 2's complement of the binary number 1101 is  
a) 0010                      b) 1011                      c) 0011                      d) 1110

**Part- B (5x2= 10 marks)**

**Answer all questions choosing (a) or (b)**

1. What is half adder? Draw and explain Half adder with logic diagram and truth table.

**OR**

2. Obtain expressions for its sum and carry outputs.

**Part- C (1x8= 8marks)**

**Answer all questions choosing (a) or (b)**

3. Explain construction of half adder using NAND gates only

**OR**

**What is EX-OR gate ? Give its symbol, Boolean equations and truth table in detail?**

Internal - 1

**MUSLIM ARTS COLLEGE, THIRUVITHIANCODE**

**DEPARTMENT OF MATHEMATICS - 2024**

**Internal Exam - 1**

**Code :**

**ANALYTICAL GEOMETRY**

**Class : I B.Sc**

**Time : 1 Hr**

**Marks : 20**

**I. Choose the correct answer**

$2 \times 1 = 2$

1. Every equation of the first degree in  $x, y, z$  represents .....

a) sphere    b) line    c) plane    d) circle

2. Define pole & polar.

**II. Answer either (a) or (b) from the following**

$2 \times 5 = 10$

3. a) Find the pole of the straight line  $3x + 4y - 45 = 0$  with respect to the circle  $x^2 + y^2 - 6x - 8y + 5 = 0$ .

Or

b) Find the polar of the circle  $x^2 + y^2 = 2^2$

4. a) Find the angle between the planes  $2x - y - z = 0$  &  $x + y + 2z = 3$ .

Or

b) Find the distance of the origin from the plane  $6x - 3y + 2z - 14 = 0$ .

**III. Answer either (a) or (b) from the following**

$1 \times 8 = 8$

5. a) Find the equation of the plane passing through the points  $(3, 1, 2)$  &  $(3, 4, 4)$  and perpendicular to the plane  $5x + y + 4z = 0$ .

Or

b) Show that the lines  $x + 7y - 11 = 0, 3x - y - 2 = 0$  are conjugate with respect to the circle  $x^2 + y^2 - 6x - 6y + 5 = 0$ .

MUSLIM ARTS COLLEGE, THIRUVITHANCODE.

Code: ZMAM41

Department of Mathematics, 2023-2024

II MSc - Mathematics - Fourth semester

Advanced Algebra II-

Internal Test - II

Total - 15 marks

**PART - A (1x2 = 2 marks)**

1. Write the definition for characteristic zero.
2. Write the definition for finite characteristic.

**PART - B (5x1=5marks)**

1. The polynomial  $f(x) \in F[x]$  has a multiple root iff  $f(x)$  and  $f'(x)$  have a non trivial common factors.

Or

If  $f(x) \in F[x]$  is irreducible then, if the characteristic of  $f$  is zero,  $f(x)$  has no multiple roots.

**PART - C (8x1=8marks)**

2. If  $F$  is of characteristic zero and  $a, b$  are algebraic over  $F$  then there exist an element  $c \in F[a, b]$  such that  $F[a, b] = F[c]$ .

Or

Particularly any two splitting fields of the same polynomial over a given field  $F$  are isomorphic by an isomorphism leaving every element of  $F$  fixed.

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**MUSLIM ARTS COLLEGE, THIRUVITHANCODE**

Odd Semester 2023-24

**INTERNAL TEST - I**

**Class: I B. Sc. Mathematics**

**Subject Title: Mathematics for Competitive Examination I**

**Time: 1 hour**

**Maximum: 20 marks**

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**PART A - (1 × 2 = 2 marks)**

1.  $7 + 7 \div 7 \times 7 =$  \_\_\_\_\_  
(a)  $\frac{2}{7}$       (b) 14      (c)  $7\frac{1}{7}$       (d) 42
2. The average of the first five multiples of 3 is \_\_\_\_\_  
(a) 0.5      (b) 50      (c) 5000      (d) 4

**PART B - (2 × 5 = 10 marks)**

**Answer ALL questions choosing either (a) or (b)**

3. (a) Find the value of  $1 + \frac{1}{2 + \frac{1}{1 - \frac{1}{3}}}$

Or

(b) Find the value of  $\frac{9^2 \times 18^4}{3^{16}}$ .

4. (a) The average age of a family of 6 members is 22 years. If the age of the youngest member be 7 years, find the average age of the family at the birth of the youngest member.

Or

- (b) In a mixture of 35 litres, the ratio of milk and water is 4:1. Now, 7 litres of water is added to the mixture. Find the ratio of milk and water in the new mixture.

**PART C - (1 × 8 = 8 marks)**

**Answer choosing either (a) or (b)**

5. (a) Evaluate  $\frac{0.125 + 0.027}{0.25 - 0.15 + 0.09}$

Or

- (b) Two numbers are in the ratio 3:5. If each number is increased by 10, the ratio becomes 5:7. Find the numbers.



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Principal

## DECLARATION

I hereby declare that the details and information given above are complete and true to the best of my knowledge and belief.

  
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