

# 1 ELECTROSTATIC FIELD IN FREE SPACE

## 1.1 Coulomb's Law

CONCEPTUAL QUESTION 1.1

Correct Answer: (B)

CONCEPTUAL QUESTION 1.2

Correct Answer: (C)

## 1.2 Electric Field Intensity Vector Due to Given Charge Distributions

CONCEPTUAL QUESTION 1.3

Correct Answer: (F)

CONCEPTUAL QUESTION 1.4

Correct Answer: (B)

CONCEPTUAL QUESTION 1.5

Correct Answer: (B)

CONCEPTUAL QUESTION 1.6

Correct Answer: (E)

CONCEPTUAL QUESTION 1.7

Correct Answer: (A)

## 1.3 Electric Scalar Potential

CONCEPTUAL QUESTION 1.8

Correct Answer: (A)

CONCEPTUAL QUESTION 1.9

Correct Answer: (C)

CONCEPTUAL QUESTION 1.10

Correct Answer: (E)

CONCEPTUAL QUESTION 1.11

Correct Answer: (E)

CONCEPTUAL QUESTION 1.12

Correct Answer: (D)

## 1.4 Differential Relationship between Field and Potential in Electrostatics, Gradient

CONCEPTUAL QUESTION 1.13	Correct Answer: (C)
CONCEPTUAL QUESTION 1.14	Correct Answer: (D)
CONCEPTUAL QUESTION 1.15	Correct Answer: (A)
CONCEPTUAL QUESTION 1.16	Correct Answer: (C)
CONCEPTUAL QUESTION 1.17	Correct Answer: (D)

## 1.5 Gauss' Law in Integral Form

CONCEPTUAL QUESTION 1.18	Correct Answer: (C)
CONCEPTUAL QUESTION 1.19	Correct Answer: (E)
CONCEPTUAL QUESTION 1.20	Correct Answer: (D)
CONCEPTUAL QUESTION 1.21	Correct Answer: (C)
CONCEPTUAL QUESTION 1.22	Correct Answer: (B)
CONCEPTUAL QUESTION 1.23	Correct Answer: (A)
CONCEPTUAL QUESTION 1.24	Correct Answer: (B)

## 1.6 Differential Form of Gauss' Law, Divergence

CONCEPTUAL QUESTION 1.25	Correct Answer: (B)
CONCEPTUAL QUESTION 1.26	Correct Answer: (A)

## 1.7 Conductors in the Electrostatic Field

CONCEPTUAL QUESTION 1.27	Correct Answer: (C)
CONCEPTUAL QUESTION 1.28	Correct Answer: (A)
CONCEPTUAL QUESTION 1.29	Correct Answer: (E)

## 1.8 Electrostatic Shielding

CONCEPTUAL QUESTION 1.30

Correct Answer: (B)

CONCEPTUAL QUESTION 1.31

Correct Answer: (B)

## 1.9 Charge Distribution on Metallic Bodies of Arbitrary Shapes

CONCEPTUAL QUESTION 1.32

Correct Answer: (A)

CONCEPTUAL QUESTION 1.33

Correct Answer: (C)

CONCEPTUAL QUESTION 1.34

Correct Answer: (C)

## 1.10 Image Theory

CONCEPTUAL QUESTION 1.35

Correct Answer: (A)

CONCEPTUAL QUESTION 1.36

Correct Answer: (B)

CONCEPTUAL QUESTION 1.37

Correct Answer: (A)

## 2 ELECTROSTATIC FIELD IN DIELECTRICS

### 2.1 Polarization of Dielectrics

CONCEPTUAL QUESTION 2.1	Correct Answer: (C)
CONCEPTUAL QUESTION 2.2	Correct Answer: (B)
CONCEPTUAL QUESTION 2.3	Correct Answer: (A)
CONCEPTUAL QUESTION 2.4	Correct Answer: (B)
CONCEPTUAL QUESTION 2.5	Correct Answer: (B)
CONCEPTUAL QUESTION 2.6	Correct Answer: (D)
CONCEPTUAL QUESTION 2.7	Correct Answer: (B)
CONCEPTUAL QUESTION 2.8	Correct Answer: (A)
CONCEPTUAL QUESTION 2.9	Correct Answer: (B)
CONCEPTUAL QUESTION 2.10	Correct Answer: (D)
CONCEPTUAL QUESTION 2.11	Correct Answer: (C)
CONCEPTUAL QUESTION 2.12	Correct Answer: (B)

### 2.2 Generalized Gauss' Law and Permittivity

CONCEPTUAL QUESTION 2.13	Correct Answer: (D)
CONCEPTUAL QUESTION 2.14	Correct Answer: (C)
CONCEPTUAL QUESTION 2.15	Correct Answer: (E)
CONCEPTUAL QUESTION 2.16	Correct Answer: (A)
CONCEPTUAL QUESTION 2.17	Correct Answer: (D)
CONCEPTUAL QUESTION 2.18	Correct Answer: (D)
CONCEPTUAL QUESTION 2.19	Correct Answer: (A)
CONCEPTUAL QUESTION 2.20	Correct Answer: (D)