Program: BE Electrical Engineering

Curriculum Scheme: Revised - 2016

Examination: Final Year Semester VII

Course Code: EEDLO7031 and Course Name: High Voltage Engineering (HVE)

Time: 1-hour Max. Marks: 50

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Note to the students: - All the Questions are compulsory and carry equal marks.

Q1.	Maximum dielectric strength obtained with pure liquids is about
Option A:	100 kV/mm
Option B:	10 kV/mm
Option C:	10000 kV/mm
Option D:	50 kV/mm
Q2.	Conduction and breakdown in commercial liquids is affected by
Option A:	Solid particles only.
Option B:	Vapor or air bubbles only.
Option C:	Solid particles, vapor or air bubbles and electrode materials.
Option D:	Gases only.
Q3.	The parameters that affect the breakdown strength of liquids is
Option A:	Hydrostatic pressure and temperature
Option B:	Dissolved impurities
Option C:	Dielectric constant
Option D:	Pressure, temperature, dissolved impurities, and suspended particles.
Q4.	Long – term deterioration and breakdown occur in solid dielectrics due to
Option A:	Thermal phenomenon
Option B:	Surface discharges
Option C:	Internal discharges
Option D:	Treeing phenomenon
Q5.	The material used for insulation that is exposed to atmosphere is
Option A:	Ceramic and glass
Option B:	Polyester
Option C:	Inorganic insulation
Option D:	Rubber and plastic
Q6.	For HV cables insulation, the materials used are

Option A:	Glass and ceramic
Option B:	Silicone rubber
Option C:	XLPE
Option D:	Paper-oil insulation
Q7.	Impulse current generator output wave form is
Option A:	Un-damped oscillatory wave only
Option B:	Overdamped wave
Option C:	Critically damped wave
Option D:	Can be damped wave or damped oscillatory wave
Q8.	Parallel resonant transformer test system is used when
Option A:	Large test voltages are needed
Option B:	Stable output voltage with high rate of rise of voltage is needed
Option C:	Large current is needed
Option D:	When high frequency test voltage is needed
Q9.	In testing with a resonant transformer, the output voltage is
Option A:	Rectangular wave
Option B:	Triangular wave
Option C:	Trapezoidal wave
Option D:	Pure sine wave
Q10.	To minimize the inductance in impulse current generator circuits
Option A:	Capacitors are connected in parallel
Option B:	Capacitors are subdivided into smaller units
Option C:	Air core inductances are used in series
Option D:	Discharge path is made into a rectangular path
Q11.	According to Paschen’s law, the minimum sparking potential of nitrogen is
Option A:	327 V
Option B:	420 V
Option C:	251 V
Option D:	137 V
Q12.	"The voltage gradient required to produce visual AC corona in air at a conductor surface"
Option A:	Corona inception voltage
Option B:	Corona breakdown voltage
Option C:	Corona post breakdown voltage
Option D:	Corona saturation voltage
Q13.	The limitations of Townsend's theory of breakdown in gaseous dielectric are overcome in
Option A:	Streamer’s Theory

Option B:	Cavitation and bubble theory
Option C:	Thermal breakdown theory
Option D:	Stressed oil volume theory
Q14.	For electrical insulation purposes, vacuum is used at
Option A:	High pressure vacuum
Option B:	Low pressure vacuum
Option C:	Very high-pressure vacuum
Option D:	Ultra-high-pressure vacuum
Q15.	Within dielectric, an electron starting from the cathode will drift towards the anode and during this motion
Option A:	Gains energy from the field and loses during collision
Option B:	Gains energy during both motion and collision
Option C:	Loses energy during both motion and collision
Option D:	Loses energy from the field and gains during collision
Q16.	Potential dividers the output voltage depend upon the
Option A:	Single resistor
Option B:	Relative values of all resistor
Option C:	Size of resistor
Option D:	Moisture content
Q17.	An experimental method for computing the field distribution is
Option A:	Solution of Laplace equation
Option B:	Electrolytic tank method
Option C:	Digital simulation
Option D:	Field intensity methods
Q18.	FEM can be used only with
Option A:	Fields which are bounded
Option B:	Fields which are unbounded
Option C:	Fields which are both bounded and unbounded
Option D:	When high accuracy is not required
Q19.	A small size HV laboratory is one that contains Impulse Test equipment of _____rating
Option A:	More than 10 KJ
Option B:	Equal to or less than 10 KJ
Option C:	Equal to or less than 100 KJ
Option D:	More than 100 KJ
Q20.	Which of the following type of high voltage testing laboratory, meant for engineering colleges and universities to open facilities of regular teaching and training and HV testing for the clients?

Option A:	Small size laboratory
Option B:	Medium size laboratory
Option C:	Large size laboratory
Option D:	UHV laboratory
Q21.	A medium size laboratory is one that contains AC (power frequency) Test equipment of _____rating.
Option A:	1 KVA to 10 KVA
Option B:	0 KVA
Option C:	100 KVA to 1000 KVA
Option D:	More than 1000 KVA
Q22.	In impulse testing of transformers fault location is usually done by
Option A:	Neutral current oscillogram
Option B:	Chopped wave oscillogram
Option C:	Observing for noise or smoke
Option D:	Scanning method
Q23.	C- tan delta test on electric bushing is done using
Option A:	Impulse generator
Option B:	HV Schering bridge
Option C:	Power frequency cascade transformer unit
Option D:	Resonant transformer.
Q24.	Most crucial test conducted on an isolator is
Option A:	Open circuit test
Option B:	Short circuit test
Option C:	High current test
Option D:	Temperature rise and pressure measurement tests
Q25.	In C- tan delta test, a steep increase in tan delta, when the applied voltage increases from 100% to 110% indicates
Option A:	Insulation is failing
Option B:	Presence of an internal discharge
Option C:	Increase in relative permittivity
Option D:	Decrease in insulation resistance

Program: BE Electrical Engineering

Curriculum Scheme: Revised - 2016

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	**A**
Q2.	**C**
Q3.	**D**
Q4	**C**
Q5	**A**
Q6	**D**
Q7	**D**
Q8.	**B**
Q9.	**D**
Q10.	**B**
Q11.	**C**
Q12.	**A**
Q13.	**A**
Q14.	**A**
Q15.	**A**

Q16.	**B**
Q17.	**B**
Q18.	**A**
Q19.	**B**
Q20.	**A**
Q21.	**C**
Q22.	**A**
Q23.	**B**
Q24.	**B**
Q25.	**B**