

High Voltage Engineering 17EE73/15EE73

1.	<p>A gas in normal state is almost a perfect</p> <ol style="list-style-type: none"> Conductor Insulator Semi-conductor 	CO1	L2
2.	<p>With respect to corona discharge , the dimension of sphere does not change the breakdown voltage in:</p> <div style="text-align: center;"> </div> <ol style="list-style-type: none"> Region I Region II Region III 	CO1	L4
3.	<p>Which Theory does not explain the mechanism for breakdown under different conditions?</p> <ol style="list-style-type: none"> Townsend's Theory Streamer Theory Clump's Theory 	CO1	L1
4.	<p>In elastic collisions are those in which internal changes in energy takes place within an atom or a molecule at the expenses of total kinetic energy of the colliding particle. Suitable example for inelastic collisions are</p> <ol style="list-style-type: none"> Ionization Attachment Excitation All of these 	CO1	L4
5.	$AB + e + K \rightarrow AB^- + E_a + k$ <p>The above equation is an example of</p> <ol style="list-style-type: none"> Direct attachment Dissociative attachment 	CO1	L2
6.	$AB + e + K \rightarrow A + B^- + E_a + k$ <p>The above equation is an example of</p> <ol style="list-style-type: none"> Direct attachment Dissociative attachment 	CO1	L2
7.	<p>The Townsend mechanism explains the phenomenon of breakdown</p> <ol style="list-style-type: none"> Only at low pressure Only at high pressure Only at very high pressure Only at very low pressure 	CO1	L1
8.	<p>Liquid dielectrics are mainly used as</p> <ol style="list-style-type: none"> Impregnates in high voltage cables 	CO1	L1

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	<ul style="list-style-type: none"> b. In capacitors c. For filling up transformers d. All of these 		
9.	<p>Corona results in</p> <ul style="list-style-type: none"> a. improvement in power factors b. increased capacitive reactance of transmission lines c. radio interference d. better regulation 	CO1	L2
10.	<p>In equipments with liquid dielectric, heat is transferred mainly by</p> <ul style="list-style-type: none"> a. Conduction b. Convection c. Radiation d. No heat transfers takes place 	CO1	L2
11.	<p>Which is having higher breakdown strength?</p> <ul style="list-style-type: none"> a. Solid dielectrics b. Liquid dielectrics c. Gases dielectrics d. Equal in all 	CO2	L1
12.	<p>Intrinsic Breakdown occurs in time of the order of</p> <ul style="list-style-type: none"> a. 10^{-5} s b. 10^5 s c. 10^{-8} s d. 10^8 s 	CO2	L1
13.	<p>Within dielectric, an electron starting from the cathode will drift towards the anode and during this motion</p> <ul style="list-style-type: none"> a. Gains energy from the field and loses during collision b. Gains energy during both motion and collision c. Loses energy during both motion and collision d. Loses energy from the field and gains during collision 	CO1	L4
14.	<p>The breakdown phenomenon associated with a pure liquid dielectric is</p> <ul style="list-style-type: none"> a. Suspended particle theorem b. Electroconvection Theorem c. Bubble Theory 	CO1	L2
15.	<p>In case of commercial Liquid dielectric if ϵ_1 represents permittivity of solid suspended particle and ϵ_2 represents permittivity of liquid dielectric, then if</p> <ul style="list-style-type: none"> a. $\epsilon_1 > \epsilon_2$, force directed towards a place of higher stress b. $\epsilon_1 > \epsilon_2$, force directed towards a place of lower stress 	CO1	L2
16.	<p>In case of commercial Liquid dielectric if ϵ_1 represents permittivity of solid suspended particle and ϵ_2 represents permittivity of liquid dielectric, then if</p> <ul style="list-style-type: none"> a. $\epsilon_1 < \epsilon_2$, force directed towards a place of higher stress b. $\epsilon_1 < \epsilon_2$, force directed towards a place of lower stress 	CO1	L2
17.	<p>For liquid dielectric medium, the breakdown strength depends strongly on the applied hydrostatic pressure.</p> <ul style="list-style-type: none"> a. Statement is TRUE b. Statement is FALSE 	CO1	L2
18.	<p>The breakdown voltage of liquid dielectric is highly influenced by</p> <ul style="list-style-type: none"> a. the gas content in the oil 	CO1	L1

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	<ul style="list-style-type: none"> b. the viscosity of the oil c. the presence of impurities d. All of the above 		
19.	<p>With respect to liquid dielectric medium:</p> <ul style="list-style-type: none"> a. Higher the volume of stressed oil, lesser the breakdown strength b. Higher the volume of stressed oil, higher the breakdown strength 	CO1	L4
20.	<p>With respect to pure liquid dielectric medium, reason for hydrostatic instability is</p> <ul style="list-style-type: none"> a. Coulombic forces between space charge b. Electromechanical forces between molecules 	CO1	L4
21.	<p>With respect to pure liquid dielectric medium, breakdown occurs when</p> <ul style="list-style-type: none"> a. eddy motion is less compared to drift velocity of ions b. eddy motion is more compared to drift velocity of ions 	CO1	L4
22.	<p>With respect to solid dielectric medium, electromechanical breakdown happens, when</p> <ul style="list-style-type: none"> a. electrostatic compressive forces exceeds mechanical compressive strength b. mechanical compressive strength exceeds electrostatic compressive forces 	CO2	L4
23.	<p>With respect to solid dielectric medium, heat dissipation happens through</p> <ul style="list-style-type: none"> a. Conduction b. Radiation c. Convection d. Convection and Radiation e. Radiation and Conduction 	CO2	L2
24.	<p>Thermal breakdown is more serious at high frequencies.</p> <ul style="list-style-type: none"> a. Statement is TRUE b. Statement is FALSE 	CO2	L4
25.	<p>The breakdown voltage of a solid dielectric should increase with its thickness.</p> <ul style="list-style-type: none"> a. The statement is always TRUE b. The statement is never TRUE c. The statement is sometimes TRUE 	CO2	L4
26.	<p>Formative time lag depends on the mechanism of the avalanche growth in gap. The formative time lag is usually</p> <ul style="list-style-type: none"> a. Much shorter than the statistical time lag b. Much greater than the statistical time lag c. Equal to the statistical time lag d. None of these 	CO1	L2
27.	<p>The statistical time lag depends upon the</p> <ul style="list-style-type: none"> a. Quantity of radiation that produces the primary electrons b. Amount of pre-ionization present gap c. Both the conditions 	CO1	L2
28.	<p>According to the Paschen's Law, the breakdown voltage of a uniform field gap is</p> <ul style="list-style-type: none"> a. Directly proportional to the gas pressure and inversely proportional to the electrode gap b. Inversely proportional to the gas pressure and directly proportional to the electrode gap c. Directly proportional to the both electrode gap and gas pressure d. Inversely proportional to the both electrode gap and gas pressure 	CO1	L2

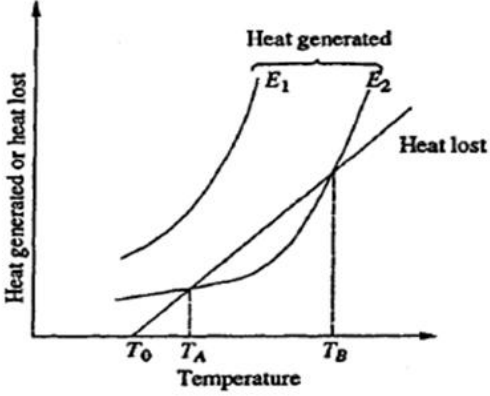
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29.	In case of solid particles present in the liquid and in case of presence of only gas bubbles in liquids, the direction of force is towards <ul style="list-style-type: none"> a. Areas of maximum stress, areas of minimum stress b. Areas of maximum stress, areas of maximum stress c. Areas of minimum stress, areas of maximum stress d. Areas of minimum stress, areas of minimum stress 	CO2	L4
30.	According to the Bubble theory, once a bubble is formed, it will elongate in the direction of electric field under the influence of electrostatic forces. During elongation the volume of bubbles <ul style="list-style-type: none"> a. Increases b. Decreases c. Remains constant d. None of these 	CO1	L4
31.	The breakdown voltage in gases depends on <ul style="list-style-type: none"> a. distance between the electrodes b. relative air density c. humidity d. all of the above 	CO1	L2
32.	The phenomenon of corona is generally accompanied by <ul style="list-style-type: none"> a. a bang b. all of the above c. magnetic hum d. a hissing sound 	CO1	L1
33.	Paschen's Law is associated with <ul style="list-style-type: none"> a. breakdown voltage b. ionization c. thermal radiations d. none of the above 	CO1	L2
34.	A good dielectric should have all the following properties EXCEPT <ul style="list-style-type: none"> a. high mechanical strength b. high dielectric loss c. freedom from gaseous inclusions d. high resistance to thermal deterioration 	CO1	L4
35.	An electronegative gas is one which <ul style="list-style-type: none"> a. Has high electron affinity b. Has Low electron affinity 	CO1	L4
36.	With respect to breakdown of electronegative gases, Breakdown is possible <ul style="list-style-type: none"> a. If attachment coefficient is less than Ionization coefficient b. If attachment coefficient is more than Ionization coefficient 	CO1	L4
37.	For the high voltage conductors at high pressures, if the voltage is positive then the corona appears as a <ul style="list-style-type: none"> a. A Uniform bluish white sheath b. Reddish glowing spots c. Uniform greenish spots 	CO1	L2
38.	For the high voltage conductors at high pressures, if the voltage is positive then the corona appears as a <ul style="list-style-type: none"> a. A Uniform bluish white sheath 	CO1	L2

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	<ul style="list-style-type: none"> b. Reddish glowing spots through out the length of the wire c. Uniform greenish spots 		
39.	<p>Which of the following gas has been used as insulating medium in electrical appliances</p> <ul style="list-style-type: none"> a. Sulphur Hexafluoride b. Carbon dioxide c. Nitrgen 	CO1	L1
40.	<p>The electrical breakdown strength of insulating materials depends on</p> <ul style="list-style-type: none"> a. nature of applied voltage b. imperfections in dielectric material c. pressure, temperature and humidity d. all of the above 	CO1	L2
41.	<p>Cascaded Transformer is used to measure</p> <ul style="list-style-type: none"> a. High current at power frequency b. High voltage at power frequency c. Impulse voltage d. Impulse current 	CO3	L1
42.	<p>The drawback of cascaded transformer configuration is</p> <ul style="list-style-type: none"> a. Secondaries of lower stages transformers are overloaded b. Primaries of lower stages transformers are overloaded c. Secondaries of higher stages transformers are overloaded d. Primaries of higher stages transformers are overloaded 	CO3	L2
43.	<p>The drawback of isolating transformer scheme of cascaded transform</p> <ul style="list-style-type: none"> a. Costly b. less space requirement c. not compact 	CO3	L2
44.	<p>Metastable partide is having life time</p> <ul style="list-style-type: none"> a. more than ordinary partide b. less than ordinary particle 	CO1	L1
45.	<p>Streamer theory of breakdown</p> <ul style="list-style-type: none"> a. Does not consider the modification of field due to space charge b. Consider the modification of field due to space charge 	CO1	L1
46.	<p>Streamer theory is applicable when</p> <ul style="list-style-type: none"> a. space charge density is more than 10^8 b. space charge density is less than 10^8 	CO1	L1
47.	<p>In calculation of equivalent leakage impedance of cascaded transformer</p> <ul style="list-style-type: none"> a. Contribution of primary impedance is maximum b. Contribution of secondary impedance is maximum c. Contribution of tertiary impedance is maximum 	CO3	L2
48.	<p>Corona inception voltage depend upon</p> <ul style="list-style-type: none"> a. smoothness of electrode surface b. air density factor c. dimension of cable d. All of the above 	CO1	L2
49.	<p>In an experiment in a certain gas it was found that the steady state current is 5.5×10^{-8} A at 8kV at a distance of 0.4cm between the plane electrodes. Keeping the field constant and reducing the distance to 0.1 cm results in a current of</p>	CO1	L3

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	<p>5.5x10⁻⁹ A. Value of Townsend's primary ionization coefficient is: a. 76.676/cm.torr b. 7.676 /cm.torr</p>		
<p>50.</p>	<p>With respect to thermal break down, for electric field E2, breakdown is not possible in the range TA and TB.</p>  <p>a. The statement is TRUE b. The statement is FALSE</p>	<p>CO3</p>	<p>L4</p>