

B. Tech. Sem –VIII (Electrical Engg.) (2014 COURSE) (CBCS) :
SUMMER - 2019

SUBJECT: HIGH VOLTAGE ENGINEERING

Day: Saturday
Date: 25/05/2019

S-2019-2893

Time: 02.30 PM TO 05.30 PM
Max Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Assume suitable data if necessary.
 - 4) Draw a neat labeled diagram **WHENEVER** necessary.
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- Q.1** a) Explain Time lag for breakdown. (05)
b) Explain Penning effect. (05)
- OR**
- Q.1** a) How breakdown in non-uniform field takes place? (05)
b) Explain corona discharge. (05)
- Q.2** a) Explain effect of moisture content on breakdown strength of liquid dielectric. (05)
b) Explain stressed oil volume theory. (05)
- OR**
- Q.2** a) Write a note on 'Application of oil in power apparatus'. (05)
b) Explain characteristics of liquid dielectrics. (05)
- Q.3** a) Explain breakdown in composite dielectrics. (05)
b) Explain mechanism of breakdown in composite dielectric material. (05)
- OR**
- Q.3** a) Explain properties of composite dielectric. (05)
b) Explain breakdown due to internal discharges. (05)
- Q.4** a) How to generate high alternating voltage? (05)
b) Explain cascade transformers for generation of high voltage. (05)
- OR**
- Q.4** a) Explain Resonant transformer. (05)
b) How to generate high impulse currents? (05)
- Q.5** a) How to measure high power frequency alternating current? (05)
b) Explain series impedance voltmeter. (05)
- OR**
- Q.5** a) How to measure impulse current? (05)
b) Explain electrostatic voltmeter. (05)
- Q.6** a) Write a note on 'Electromagnetic shielding' (05)
b) Discuss size and rating of large high voltage laboratories (05)
- OR**
- Q.6** a) Write a note on 'High voltage laboratories in India and abroad' (05)
b) Discuss size and dimension of equipment in HV laboratories. (05)

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