

SWITCH GEAR AND PROTECTION**Time : 2:30 Hours]****[Maximum Marks : 50****[Minimum Marks : 17****NOTES :**

- i) Attempt all questions.
- ii) Students are advised to specially check the Numerical Data of question paper in both versions. If there is any difference in Hindi Translation of any question, the students should answer the question according to the English version.
- iii) Use of Pager and Mobile Phone by the students is not allowed.

Q1) Answer any two parts of the following : [2 × 5 = 10]

- a) Explain the effects of faults on system reliability and stability.
- b) Write the points kept in mind during selection of fuses.
- c) Differentiate between Isolator and circuit breaker.

Q2) Answer any four parts of the following : [4 × 3 = 12]

- a) Explain the minimum oil circuit breaker.
- b) Draw and explain the SF₆ circuit breaker.
- c) Write the maintenance schedule of air circuit breaker.
- d) Describe the working principle of thermal relay.
- e) Classified the relay according to their applications

Q3) Answer any three parts of the following : [3 × 4 = 12]

- a) Summarised the faults which occur in motors.
- b) Explain the Merz - Price protection for alternators.
- c) Enlist the protection scheme for transformer and feeders.
- d) Explain the protection scheme of small motors.

Q4) Answer any two parts of the following : [2 × 4 = 8]

- a) Describe the principles of space - gap lightning arrester.
- b) Explain the location and rating of lightning arrester.
- c) Explain the operation of small sub-station.

Q5) Answer any two parts of the following : [2 × 4 = 8]

- a) Write the uses of reactors.
- b) Differentiate between equipment grounding and system grounding.

c) Explain the concept of Gas Insulated substation.

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(hYXr AZwdmX)

ZmoQ : g^r äZm| Ho CÍma Xr{O`o &

à.1) {ZâZ_}go {H Ýht Xmo ^mJm| Ho CÍma Xr{OE & [2 × 5 = 10]

- A) {gQ_ H s {dægzr`Vm Am;a WaVm na Xmofm| Ho à^mdm| H s `m»`m H a| &
- ~) µâ`yO Ho M`Z Ho Xm;amZ Ü`mZ_ | afo JE q~XpAm| H mo {bI| &
- g) AmBgmoboQa Am;a g{H©Q ~«oH a Ho ~rM A\$Va {bIo &

à.2) {ZâZ_}go {H Ýht Mma ^mJm| Ho CÍma Xr{OE & [4 × 3 = 12]

- A) Ý`yZV_ Vob g{H©Q ~«oH a H s `m»`m H a| &
- ~) SF_g{H©Q ~«oH a H mo Amao{IV H a| Am;a g_PmE\$ &
- g) E`a g{H©Q ~«oH a H m AZwajUH m`©H«_ {b{IE &
- X) W_©b [abo Ho H m`© {gÖm\$V H m dU©Z H a| &
- B) [abo H mo CZHo AZwà`moJm\$o Ho AZwgma dJuH\$ V H a| &

à.3) {ZâZ_}go {H Ýht VrZ ^mJm| Ho CÍma Xr{OE & [3 × 4 = 12]

- A) _moQam|_ | hmoZodmbo Xmofm| H mæg\$jon_ | à VwV H a| &
- ~) AëQ aZoQ a Ho {bE_©-àmBg àmoQ oŞeZ H s `m»`m H a| &
- g) Q`m\$g| m_©a Am;a \ sSa Ho {bE gwajm `moOZm H mo gyMr-Ö H a| &
- X) moQ r _moQ am| H s gwajm `moOZm H s `m»`m H s{OE &

à.4) {ZâZ_}go {H Ýht Xmo ^mJm| Ho CÍma Xr{OE & [2 × 4 = 8]

- A) moQ J;n bmbQqZJ AæQa Ho {gÖm\$V H m dU©Z H a| &
- ~) bmbQqZJ AæQa H WmZ Am;a aoqQ J H s `m»`m H a| &
- g) moQ o g-æQoeZ Ho g\$MmbZ H s `m»`m H a| &

à.5) {ZâZ_}go {H Ýht Xmo ^mJm| Ho CÍma Xr{OE & [2 × 4 = 8]

- A) [aEŞQ a Ho Cn`moJ {b{IE &
- ~) CnH aU«mC\$qs J Am;æ{g Q_ J«mC\$qs J Ho ~rM A\$Va {bIo &
- g) J;g B\$gwboQoSæ~ QoeZ H s AdYmaUm H s `m»`m H a| &

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