SUBJECT CODE:-75
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(EEP/EE/EEE) Examination Nov/Dec 2015
Testing & Maintenance of Electrical Equipment
(Revised)

[Time: Three Hours]   **[Max. Marks: 80]**

"Please check whether you have got the right question paper."
N.B   i) Q.1 & 6 are compulsory.
        ii) Solve any two questions from each section from remaining.
        iii) Assume suitable data if required.

SECTION-A

Q1. a) Define i) Testing ii) Maintenance iii) Fault   06

   b) Match the pairs   04

i)	NDT	a)	Pouring in cavity
ii)	Type tests	b)	Design validation
iii)	Short circuit	c)	X-ray
iv)	Impregnation	d)	nearest path

Q.2 a) Explain what will happen & why? If a DC shunt motor got its field winding broken during its running conditions.   07

   b) Transfer 1-phase, has its neutral wire terminal shorted with ground. What effect will be there on a transformer?   08
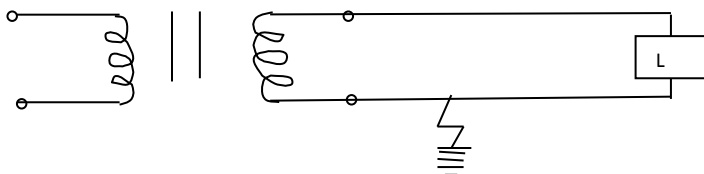
Q.3 a) During manufacturing, List out the probable core faults, which may take place. & name the equipment to detect that fault.   07

   b) Explain heat run test on a transformer with supporting neat sketches.   08

Q.4 a) The three phase transformer is showing 'High temperature' 'indication', immediately after switching 'ON'. What will be your judgment? Give the reason in support of your judgement.   07

   b) What are the 'On-Site' testing methods required to be done as per ISS? Give the No, of ISS & explain any one method.   08

Q.5   Write short notes on any three.   15

        i)   Polarity test on 3-ph transformer.
        ii)   Interfacial test on transformer oil.
        iii)   Tan-δ test on transformer
        iv)   Ultra sonic testing

Q.6 a) Fill in the blanks.   04

      i)   In case of direct shaft coupling of motor with pump -------------------should be used, to avoid back-lash effect.

      ii)   To change the direction of 1-ph I.M.--------------------should be--------------------

      iii)   3-ph IM can be run on 1-ph as----------------------------I.M.

  b) Match the pairs: 06

i)	Repetitive rewinding of motor	a) 1-ph I.M.
ii)	Non-alignment of rotor	b) Lathe M/C
iii)	Slip rings of 3-ph I.M.	c) Core saturation
iv)	Flange mounted motor	d) Bearing Jammed
v)	Centrifugal switch	e) Direct coupled drive
vi)	Intermitted duty cycle motor.	f) Star connection.

Q.7 a) Write the procedure for rewinding of 3-ph I.M. with neat sketches.   08

  b) How many & what types of protections are provided in starter of motor?   07

Q.8 a) List out probable faults during the operation of 3-ph I.M. & write the names of the tests to detect those faults.   07

  b) Explain with neat sketches, the working of ultra-sonic (senography) testing machine.   08

Q.9 a) Explain with neat sketch. The arrangement & working of λ/Δ starter. & write the different probable faults in it with reason for each fault.   10

  b) Explain the method of Swinburne test on I.M. why it is carried out?   05

Q.10 Write short notes on any three   15

      i)   Meggering on 3-ph I.M.

      ii)   Dynamic balancing of Sq. Case rotor.

      iii)   Type test on 3-ph I.M.

      iv)   Faults during manufacturing of 3-ph I.M.