Question Bank (G scheme)

Name of subject: ELECTRICAL ENGINEERING **Unit Test :II**

Subject code: 17318 **Course : EJ/IS/IE**

Semester: III

Chapter 4 (Single Phase Transformer)(16 M)

(3 marks)

1)Define % voltage regulation and %efficiency of a transformer & transformation ratio

2)State various losses in transformer.How these losses can be minimized?

3)State the working principle of transformer?State the condition for maximum efficiency of transformer.

4)Draw a neat constructional sketch of autotransformer. State its merits.

5)Write down the applications of each-1)radio transformer 2)audio frequency transformer 3)pulse transformer.

(4 marks)

6) A 2000/200v, 1ϕ, 50 HZ transformer has the maximum flux densityof 20mwb.find the no of turns on the primary and secondary windings. If cross sectional area of the core is 1.1cm^2.Define transformation ratio.

7)Differentiate between core type and shell type transformer.

8) An ideal transformer has 500 turns on it's primary and 250 turns on it's secondary.If primary winding is connected to 230v supply & a resistor of 10Ω is connected to secondary. Calculate

1) Secondary winding current

2) Primary current

3) Secondary voltage

4) KVA rating of transformer

9) A 5kva, 230/115v, 50hz, 1ϕ transformer has the following losses. Iron loss=100watt,copper loss=400watt.calculate1)full load efficiency2)maximum efficiency when connected to a load of 0.8pf of lagging

10) Compare two winding transformer and autotransformer

Chapter 5 (Three Phase Induction Motor) (16M)

(3 marks)

11)Define 1)slip 2)synchronous speed 3)rotor frequency

12)Give any three applications of squirrel cage induction motor and slip ring induction motor

13)List out speed control method of 3 ϕ induction motor and draw the diagram of any one method

14)How direction of 3ϕ induction motor can be reversed and explain the construction of 3 ϕ induction motor

(4 marks)

15)Draw and explain slip ring type rotor and write down one advantage and disadvantage of it.

16)Draw and explain squirrel cage type rotor and write down one adv.anddis.of it.

17) Compare slip ring type rotor and squirrel cage type rotor

18)Sketch and explain torque speed chara. of 3 ϕ induction motor

19) State the necessity of starter in 3 ϕ induction motor.

Chapter 6 (Fractional Horse Power Motors) (12M)

(3 marks)

20)Draw the ckt.diagram of 1ϕ split phase induction motor and state the use of centrifugal switch in it.

21)Why single phase induction motor are not self-starting and list out the types of 1ϕ induction motor

22)State two applications of each 1)universal motor

2)stepper motor

3)servo motor

23)State the types of servo motor and Draw the diagram of any one type

24)How the direction of rotor of motor can be reverse in 1ϕ induction motor.

(4 marks)

25)Draw and explain the working principle and operation of universal motor.

26)Explain the working principle of stepper motor & explain any one type.

27)Explain the working principle of AC servomotor witha neat diagram.

Chapter 7 (Electrical Safety) (6M)

3 marks

28)Write any four safety precautions while working with electrical system.

4 marks

29)State and Explain the types of wires used in electrical installation.

30)Explain the necessity of earthing. State the types of earthing.