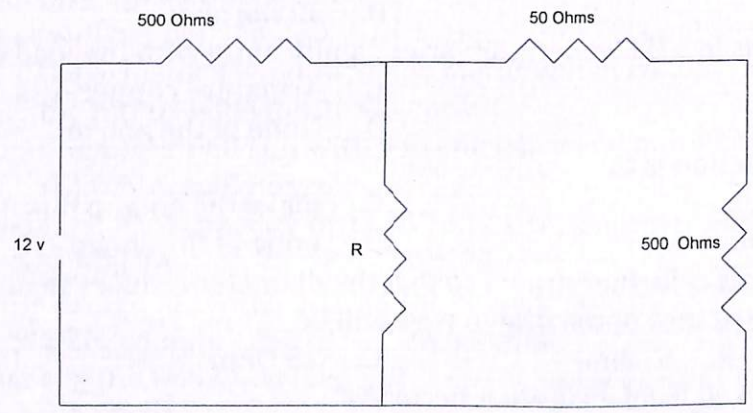
WRITTEN TEST FOR MFCP OF TECHNICIAN (ELECTRICAL) A TO B

30.08.2017

1. A heater coil rated at 1000W, 220V is connected to 120V line. Power consumed is
   A. 250W B. 500W C. 200W D. 400W
2. The electric motor used in portable drill is
   A. Universal motor C. Repulsion motor
   B. Capacitor run motor D. Hysteresis motor
3. The hum in transformer is developed in
   A. Core B. Winding C. Cooling oil D. Tank
4. KW = $\frac{\text{H.P x 746}}{\text{------ x Efficiency}}$
   A. Volts B. Ampere C. 100 D. 1000
5. KW = KVA x --------
   A. 1.732 B. Line Volt C. Power factor D. 1.11
6. To produce a large D.C voltage
   A. A number of cells are connected in parallel
   B. A number of cells are connected in series
   C. Large battery is connected
   D. None of the above
7. How can three resistances of values 2 Ohms, 3 Ohms and 6 Ohms be connected to produce an effective resistance of 4 Ohms
   A. All the 3 resistances parallel
   B. 6 Ohm, 3 Ohm parallel and 2 Ohm series to that
   C. All the 3 resistances in series
   D. 6 Ohm, 2 Ohm parallel and 3 Ohm series to that
8. A capacitor opposes
   A. change in current C. both change in current and voltage
   B. change in voltage D. none of the above
9. One micro volt is
   A. 0.001v B. 0.0001V C. 0.00001V D. 0.000001V
10. What is the value of unknown resistance R in the figure below if the voltage drop across the 500 Ohm resistor is 2.5 Volts



A. 133Ω B. 233 Ω C. 250Ω D. 533Ω

11. Trickle charging of a storage battery helps to
    A. prevent sulphation
    B. keep it fresh and fully charged
    C. maintain proper electrolyte level
    D. increase its reserve capacity
12. "Low voltage" is voltage not exceeding---------
    A. 230 V B. 440V C. 250V D. 650V
13. For a sine wave with peak value "I" the R.M.S value is
    A. 0.818 I B. 0.707 I C. 0.5 I D. 1.414 I
14. Bucholz relay is used on
    A. Mercury arc rectifiers
    B. Transformers
    C. D.C series motors
    D. Alternators
15. Connected load is
    A. The rating in kW of installed electrical load
    B. Maximum load put on at any time
    C. Part of load always remain ON
    D. Average load during a period

16. Line Amps = $\dfrac{\text{H.P x 746}}{1.732 \times \text{----- x Efficiency x P.F}}$

    A. Line volts B. 1000 C. Phase Volts D. 100
17. To produce a large D.C voltage
    A. A number of cells are connected in parallel
    B. A number of cells are connected in series
    C. Large battery is connected
    D. None of the above
18. A constant current of 5 m A charges a 10 microfarad capacitor for 1 second. The voltage across the capacitor will be
    A. 5 Volts
    B. 50 Volts
    C. 500 Volts
    D. 5000 Volts
19. The ampere hour capacity of lead acid battery depends on
    A. density of electrolyte
    B. size of container
    C. number of plates
    D. all the above
20. Which of the following loss in a D.C generator varies significantly with the load current
    A. Field copper loss
    B. Windage loss
    C. Armature copper loss
    D. None of the above
21. The effect of armature reaction is to
    A. decrease the total flux
    B. increase the total flux
    C. make the air gap flux uniform
    D. none of the above
22. A resistance wire of 5 Ohms is further drawn so that the diameter reduces to one fifth of its original diameter. The resistance of the drawn wire will be
    A. 1 Ohm B. 5 Ohm C. 25 Ohm D. 125 Ohm
23. When an electron is removed from an atom it becomes
    A. a neutron B. a proton C. a positive ion D. a negative ion

24. Synchronous motor working on leading power factor and not driving mechanical load is known as
    A. condenser
    B. synchronous condenser
    C. inverter
    D. converter
25. In a lead acid battery, the level of electrolyte should be
    A. below the level of plates
    B. up to the level of plates
    C. above the level of plates
    D. container should be full of electrolyte so that there is no air inside
26. Satellite power requirement is provided through
    A. lead acid batteries
    B. dry cells
    C. solar cells
    D. nickel cadmium cells
27. One micro volt is
    A. 0.001v B. 0.0001V C. 0.00001V D. 0.000001V
28. Which of the following can give the best indication regarding the state of charge of a lead-acid battery
    A. specific gravity of electrolyte
    B. colour of electrolyte
    C. pen circuit voltage of battery
    D. weight of the battery
29. Form factor is the ratio of
    A. RMS value / peak value
    B. Mean value / peak value
    C. RMS value / mean value
    D. Mean value / RMS value
30. Form factor for sine wave is
    A. 0.667 B. 0.707 C. 1.11 D. 1.414
31. The capacitance of a capacitor is **NOT** influenced by
    A. plate thickness
    B. plate area
    C. plate separation
    D. nature of dielectric
32. Field winding of D.C series motor is usually provided with thicker wire
    A. to provide large flux
    B. to reduce use of insulating material
    C. as it carries large load current
    D. in order to reduce eddy currents
33. For which of the following application a DC motor is preferred over an AC motor
    A. low speed operation
    B. high speed operation
    C. variable speed operation
    D. fixed speed operation
34. What will happen if a 220 V, DC series motor is connected to 239V AC supply
    A. the armature winding of the motor will burn
    B. the motor will vibrate violently
    C. the motor will run with less efficiency and more sparking
    D. the motor will not run
35. Maximum KVA capacity of 11 KV/433 V transformer permissible for installation is
    A. 1000KVA B. 750KVA C. 1500 KVA D. 1600KVA
36. In the design of switch boards, the current density shall not be greater than -------- Amperes
    A. 1.2A/sq:mm B. 2.2A/sq:mm C. 5A/sq:mm D. 7A/SQ:MM
37. Which of the following load offers nearly unity power factor
    A. tube light
    B. induction motor
    C. arc furnace
    D. GLS lamp

38. Which of the following material has the least value of dielectric constant
    A. Paper
    B. Oil
    C. Glass
    D. Ceramics
39. In squirrel cage induction motors, the rotor slots are usually given slight skew in order to
    A. reduce magnetic hum
    B. reduce windage losses
    C. reduce eddy currents
    D. reduce accumulation of dirt and dust
40. In capacitor start and run motors the function of the running capacitor in series with the auxiliary winding is
    A. to improve torque
    B. reduce fluctuations in torque
    C. increase over load capacity
    D. improve power factor
41. The speed control of universal motor used for sewing machines is by
    A. varying the resistance
    B. friction
    C. centrifugal mechanism
    D. tapping the field
42. Presence of moisture in transformer cooling oil
    A. improve cooling rate
    B. increase sludge formation
    C. increase dielectric strength
    D. reduces dielectric strength
43. The dielectric strength of transformer oil is expected to be
    A. 1000V B. 33KV C. 100KV D. 330KV
44. If a D.C motor is to be selected for conveyers which motor would be preferred
    A. series motor
    B. shunt motor
    C. differentially compound motor
    D. cumulatively compound motor
45. The speed of a D.C motor is
    A. always constant
    B. proportional to load current
    C. directly proportional to back e.m.f
    D. inversely proportional to the product of back emf and flux
46. What will happen when the supply terminals of a D.C shunt motor are reversed
    A. the motor will burn
    B. the motor will not run
    C. the motor will run as a generator
    D. the motor will run in reverse direction
47. For a given size of motor, the fuse rating of an induction motor depends on
    A. shaft diameter of the motor
    B. nature of load to be applied on the motor
    C. R.PM of motor
    D. method of starting the motor
48. When current in a conductor increases then according to Lenz's law self-induced voltage will
    A. tend to decrease the amount of current
    B. aid the applied voltage
    C. produce current opposite to the increasing current
    D. aid the increasing current
49. A capacitor consists of two
    A. insulation separated by a dielectric
    B. conductors separated by an insulator
    C. ceramic plates and one mica disc
    D. silver-coated insulators
50. The value of dielectric constant for vacuum is taken as
    A. Zero B. 1 C. 100 D. Infinite

TECHNICIAN (ELECTRICAL) A to B (MFCP)- ANSWER KEY (30/08/2017)

1	A	26	C
2	A	27	D
3	A	28	A
4	D	29	C
5	C	30	C
6	B	31	A
7	B	32	C
8	B	33	C
9	D	34	C
10	B	35	D
11	B	36	A
12	C	37	D
13	B	38	B
14	B	39	A
15	A	40	D
16	A	41	A
17	B	42	D
18	C	43	B
19	C	44	A
20	C	45	C
21	A	46	D
22	D	47	D
23	C	48	A
24	B	49	B
25	C	50	B