**University of Mumbai**

**Examination 2020**

**Cluster 5**

**Program: BE Electronics and Electrical Engineering**

**Curriculum Scheme: Revised 2012**

**Examination: Final Year Semester VII**

**Course Code: ELC 701 and Course Name: Drives and Control**

**Time: 1 hour Max.Marks: 50**

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Note to the students:- All the Questions are compulsory and carry equal marks .

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| Q1. | Which braking is not possible in series motor? |
| Option A: | Counter current braking |
| Option B: | Dynamic braking. |
| Option C: | Regenerative braking. |
| Option D: | Rheostat braking. |
|  |  |
| Q2. | Quadrant I is called \_\_\_\_\_\_motoring. |
| Option A: | backward |
| Option B: | Forward |
| Option C: | Positive |
| Option D: | Reverse |
|  |  |
| Q3. | In breaking motor acts as\_\_\_ |
| Option A: | Motor |
| Option B: | Generator |
| Option C: | Drive |
| Option D: | breaker. |
|  |  |
| Q4. | Inertia of motor can be calculated if |
| Option A: | dimensions know |
| Option B: | current know |
| Option C: | volume know |
| Option D: | weight of load and motor know |
|  |  |
| Q5. | Out of the following which harmonic is positive sequence hamonic? |
| Option A: | 7th order |
| Option B: | 9th order |
| Option C: | 5th order |
| Option D: | 11th order |
|  |  |
| Q6. | In a DC series motor, the electromagnetic torque developed is proportional to \_\_\_\_\_\_ |
| Option A: | Ia |
| Option B: | Ia 2 |
| Option C: | Ia 3 |
| Option D: | Ia 0.5 |
|  |  |
| Q7. | ........has least range of speed control |
| Option A: | Slip ring induction motor |
| Option B: | Synchronous motor |
| Option C: | DC shunt motor |
| Option D: | Schrage motor |
|  |  |
| Q8. | Moment of inertia of flywheel require for |
| Option A: | load equalization |
| Option B: | speed equalization |
| Option C: | torque equalization |
| Option D: | both speed and torque |
|  |  |
| Q9. | Current limit control employed to limit |
| Option A: | Converter and motor current below safe limit due to transient operation |
| Option B: | Speed regulation |
| Option C: | Voltage control |
| Option D: | Motor current above safe limit. |
|  |  |
| Q10. | In dynamic braking, DC series motor behaves as a \_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Separately excited motor |
| Option B: | Transformer |
| Option C: | Induction motor |
| Option D: | Thyristor |
|  |  |
| Q11. | If the rotor resistance of an induction motor is doubled, keeping the other parameters constant, then the maximum torque of the induction motor will become |
| Option A: | Double |
| Option B: | Halved |
| Option C: | One fourth |
| Option D: | Remains same |
|  |  |
| Q12. | Calculate the terminal voltage of Permanent Magnet DC motor having a resistance of 2 Ω and a full load current of 5 A with 20 V back e.m.f. |
| Option A: | 30 V |
| Option B: | 25 V |
| Option C: | 20 V |
| Option D: | 31 V |
|  |  |
| Q13. | In generating mode, three-phase I.M runs |
| Option A: | above the synchronous speed |
| Option B: | below the synchronous speed |
| Option C: | rotate in the reverse direction |
| Option D: | at the synchronous speed |
|  |  |
| Q14. | The concept of V/f control of inverters driving induction motors resuls in |
| Option A: | constant torque operation |
| Option B: | speed reversal |
| Option C: | reduced magnetic loss |
| Option D: | hormonic elimination |
|  |  |
| Q15. | In vector of or field oriented control where an induction motor can be controlled like a |
| Option A: | dc series motor |
| Option B: | dc compound motor |
| Option C: | separately excited dc motor |
| Option D: | dc shunt motor |
|  |  |
| Q16. | The phase displacement between d-axis and q-axis is |
| Option A: | 45 degree |
| Option B: | 90 degree |
| Option C: | 30 degree |
| Option D: | 180 degree |
|  |  |
| Q17. | J inertia can be determine more accurately by? |
| Option A: | speed time curve |
| Option B: | speed curve |
| Option C: | time curve |
| Option D: | torque speed curve |
|  |  |
| Q18. | A synchronous motor is a useful industrial machine due to its property of |
| Option A: | Improving the power factor |
| Option B: | Speed is constant |
| Option C: | Can always be adjusted to operate at unity power factor |
| Option D: | All of the above |
|  |  |
| Q19. | Dynamic response to torque in DTC \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ FOC. |
| Option A: | faster than |
| Option B: | slower than |
| Option C: | same as |
| Option D: | none of these |
|  |  |
| Q20. | Construction of BLDC is exactly similar to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Conventional DC motor |
| Option B: | Induction motor |
| Option C: | Permanent magnet synchronous motor |
| Option D: | Totally different construction |
|  |  |
| Q21. | Current Source Inverter behaves as a current source due to presence of large \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in dc link |
| Option A: | Diode |
| Option B: | Inductor |
| Option C: | Capacitor |
| Option D: | Resistor |
|  |  |
| Q22. | A synchronous motor will always stop when |
| Option A: | Supply voltage fluctuates |
| Option B: | Load in motor varies |
| Option C: | Excitation winding gets disconnected |
| Option D: | Supply voltage frequency changes |
|  |  |
| Q23. | A a synchronous machine is called as doubly excited machine because |
| Option A: | It can be over excited |
| Option B: | It needs twice the normal exciting current |
| Option C: | It has two sets of rotor poles |
| Option D: | Both its rotor and stator are excited |
|  |  |
| Q24. | Calculate the power developed by a motor using the given data: Eb = 55 V and I = 6 A. |
| Option A: | 440 W |
| Option B: | 220 W |
| Option C: | 330 W |
| Option D: | 550 W |
|  |  |
| Q25. | If motor is fed from \_\_\_\_\_\_\_\_\_\_\_flywheel can mounted on motor shaft. |
| Option A: | generator set |
| Option B: | motor generator set. |
| Option C: | source |
| Option D: | Control unit |