**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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Name of the Question Bank Generator: Tejashree Bahikar

College Name: NEW HORIZON INSTITUTE OF TECHNOLOGY AND MANAGEMENT,THANE

Mobile Number: 8850821184

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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 |