Program: BE Electrical Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VIII

Course Code: EEC801

Course Name: Design Management and Auditing of Electrical Systems (DMAES)

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.  | The primary industry standard used in electrical design is |
| Option A: | IESNA |
| Option B: | EASA |
| Option C: | NEC |
| Option D:  | NEMA |
|  |  |
| Q2. | Distribution system in a large consumer premises has? |
| Option A: | Single feeder |
| Option B: | Two feeders |
| Option C: | Three feeders |
| Option D: | Floor wise feeders |
|  |  |
| Q3. | A transformer is installed in a consumer distribution system is generally having primary voltage of \_\_\_\_ |
| Option A: | 400 KV |
| Option B: | 132 KV |
| Option C: | 66 KV |
| Option D: | 11 KV |
|  |  |
| Q4. | The effect of diversity and load factor on transformer rating is?  |
| Option A: | Reduced rating (Optimized) |
| Option B: | Increased rating |
| Option C: | Load unbalancing |
| Option D: | Load balancing |
|  |  |
| Q5. | Distribution transformer are designed for maximum efficiency at? |
| Option A: | 50 to 60% load |
| Option B: | 20to 30% load |
| Option C: | 100% load |
| Option D:  | Any load |
|  |  |
| Q6. | Which of the following circuit breakers has the lowest operating voltage? |
| Option A: | SF6 circuit breaker |
| Option B: | Air Circuit breaker |
| Option C: | Air blast |
| Option D:  | Minimum oil circuit breaker |
|  |  |
| Q7.  | Distribution of power is technically difficult if the feeder length is beyond |
| Option A: | 35 to 45 km |
| Option B: | 500 km |
| Option C: | 300 km |
| Option D:  | 800 km |
|  |  |
| Q8.  | Following is not the type of configuration of UPS system |
| Option A: | online double conversion |
| Option B: | line-interactive |
| Option C: | Standby  |
| Option D:  | Back to Back Conversion |
|  |  |
| Q9. | Which of the following prevents moisture entry into the cable? |
| Option A: | Armor |
| Option B: | bedding |
| Option C: | conductor surface |
| Option D:  | lead sheath |
|  |  |
| Q10.  | Illumination level required for precision work is around |
| Option A: | 50 lm/ sq-m |
| Option B: | 100 lm/ sq-m |
| Option C: | 200 lm/ sq-m |
| Option D:  | 500 lm/sq-m |
|  |  |
| Q11.  | What is the function of an Isolator? |
| Option A: | Break Short circuit current |
| Option B: | Making under fault conditions |
| Option C: | Breaking the circuit under no load condition |
| Option D:  | Operate when lightning surge strikes |
|  |  |
| Q12.  | MCCB used for the protection of three phase delta connected motor should have\_\_\_\_\_ |
| Option A: | Two pole |
| Option B: | Triple pole |
| Option C: | Four pole |
| Option D: | Triple pole with neutral link |
|  |  |
| Q13. | If the supply frequency to the transformer is decreases, the iron loss will \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: |  Not change |
| Option B: |  Decrease |
| Option C: |  Increase |
| Option D:  |  Cannot be determined |
|  |  |
| Q14.  | When the plant is adopting automatic power factor controller (APFC), it results into  |
| Option A: | reduced active power drawn from grid  |
| Option B: | reduced the reactive power drawn from grid |
| Option C: | reduced the voltage of the plant  |
| Option D:  | increased the load current of the plant |
|  |  |
| Q15. | Under no change in the efficiency scenario A CUSUM graph follows a random fluctuation trend and oscillates around. |
| Option A: | 100 |
| Option B: | 100% |
| Option C: | 50 |
| Option D:  | 0 |
|  |  |
| Q16.  | Following should not the characteristic of Energy audit instruments |
| Option A: | Easy to operate |
| Option B: | Cheaper |
| Option C: | Data Recording |
| Option D:  | Bulky and heavy |
|  |  |
| Q17. | “The judicious and effective use of energy to maximize profits and enhance competitive positions”. This can be the definition of: |
| Option A: | Energy conservation |
| Option B: | Energy policy |
| Option C: | Energy management |
| Option D: | Energy Audit |
|  |  |
| Q18. | An energy policy does not include |
| Option A: | Targeting energy consumption reduction |
| Option B: | Time period for reduction |
| Option C: | Declaration of top management commitment |
| Option D:  | Future production projection |
|  |  |
| Q19.  | Which instrument is used to monitor O2, CO in flue gas? |
| Option A: | Combustion analyzer |
| Option B: | Power analyzer |
| Option C: | Pyrometer |
| Option D:  | Fyrite |
|  |  |
| Q20. | Which among the following lamps is not an energy efficient lamp? |
| Option A: | Incandescent Lamp |
| Option B: | LED lamp |
| Option C: | T5 Tube Light |
| Option D: | Compact Fluorescent Lamp |
|  |  |
| Q21. | The HVAC system is designed with a capacity based on |
| Option A: | System performance with low life-cycle cost |
| Option B: | median conditions under which they are expected to operate |
| Option C: | Physical characteristic of building |
| Option D:  | Estimated maximum heating and cooling loads |
|  |  |
| Q22.  | Electronic variable frequency drive (VFD) connected to motors: |
| Option A: | provide variable speed with high efficiency |
| Option B: | induces eddy-current in the secondary member of the clutch mechanism |
| Option C: | is not suitable for variable torque load |
| Option D:  | does not provide variable speed and has low-efficiency |
|  |  |
| Q23. | What's the main reason why LEDs are more energy efficient compared to other lighting options? |
| Option A: | The process they use to convert electricity into light is more effective |
| Option B: | They are made of higher quality materials |
| Option C: | They use alternating current instead of direct current |
| Option D:  | They absorb less heat |
|  |  |
| Q24.  | In case of EEM motors hysteresis losses are reduced in comparison to standard motor |
| Option A: | By using large rotor bars of copper conductor |
| Option B: | by using high grade silicon steel |
| Option C: | using thicker laminations |
| Option D:  | using low loss fan design |
|  |  |
| Q25. | What the word 'BMS' stands for  |
| Option A: | Building Management System |
| Option B: | Brain Monitoring System |
| Option C: | Best Monitoring System |
| Option D:  | Big Management System |