1. What size 2 pole breaker must you use on a 3HP, 115V single phase motor?
   A. 40A
   B. 50A
   C. 80A.
   D. 100A.

2. An electrical equipment approved for use in hazardous location is marked with temperature code of T2C. What is the maximum surface temperature it can withstand?
   A. 100ºC
   B. 160ºC
   C. 230ºC
   D. 260ºC

3. What must be the marking on an approved emergency lighting installed in a dwelling unit?
   A. IEEE
   B. UL
   C. CSA.
   D. NEMA.

4. What must be the current rating of a thermostat rated to operate at the line voltage?
   A. 100% of the sum of current ratings of all the equipments it controls.
   B. 125% of the sum of current ratings of all the equipments it controls.
   C. 200% of the sum of current ratings of all the equipments it controls.
   D. 300% of the sum of current ratings of all the equipments it controls.

5. In a commercial garage, entire area up to and including ______mm above floor is considered as class1 zone 2 location.
   A. 25mm
   B. 50mm
   C. 100mm
   D. 150mm

6. What is the maximum amperage of a teck 90 cable installed in a box?
   A. 100A
   B. 125A
   C. 150A
   D. 200A

7. What PPE (personal protection equipment) is not required when using a hand saw?
   A. Safety glasses.
   B. Gloves.
   C. Steel toed boots.
   D. Coveralls.

8. If line voltage is 4KV, in a star connected transformer, what is the phase voltage?
   A. 8.0 KV.
   B. 6.93 KV.
   C. 4.0 KV.
   D. 2.3KV.
9. At what location, caution tape and pylons can be used?
A. Elevators.
B. Stairwells.
C. Windows.
D. Open trenches

10. Which motor has best starting torque?
A. Squirrel cage induction motor.
B. Series connected motor.
C. Wound rotor motor.
D. Split phase capacitor start motor.

11. Who should an electrician contact in an event of conflict between electrical and plumbing drawings?
A. Your supervisor
B. The Electrical Inspector.
C. The architect
D. The General contractor.

12. Nurse call station is characterized as:
A. Class 1 circuit
B. Class 2 circuit
C. Open circuit
D. Closed circuit

13. An electrician cannot install a telephone jack in which of the following locations?
A. In a bathroom
B. In the kitchen.
C. In the living room
D. In the bedroom

14. What is the minimum headroom clearance required at a location where consumer service box needs to be installed?
A. 1 meter.
B. 1.5 meters.
C. 2 meters.
D. 2.5 meters.

15. What is the minimum space required between dry type open ventilated transformer mounted on a concrete wall?
A. 6 mm.
B. 12mm.
C. 24mm.
D. 32mm.

16. What type of circuit conductors are permitted to be installed in the same raceway carrying conductive fibre optic cable?
A. Class 2 circuit conductors
B. Class 1 circuit conductors
C. Low voltage circuit conductors
D. High voltage circuit conductors
17. What is the minimum separation between communication conductors with a non-conducting jacket and a pool?  
A. 0.75m  
B. 1m  
C. 1.5m  
D. 2m

18. How many more #14AWG conductors can be installed in a device box, 3" x 2" x 3" that uses 8 wire connectors?  
A. 5  
B. 6  
C. 7  
D. 8

19. If you had 3 transformers hooked up in delta connection rated at 300 KVA for the whole assembly and one transformer was taken out. What would be the KVA or the remainder?  
A. 100 kva  
B. 173 kva  
C. 200 kva  
D. 300 kva

20. What is the multiplication factor used while calculating conductor size for supplying a capacitor?  
A. 100%  
B. 125%  
C. 135%  
D. 150%

21. When used in class 2 circuits, what is the minimum size of extra low voltage conductor that can be laid in a raceway?  
A. #16AWG.  
B. #19 AWG.  
C. #22 AWG.  
D. #24 AWG.

22. FCC cable cannot be installed in which of the following locations?  
A. under carpet square not exceeding 750mm  
B. in dry location  
C. on hard smooth continuous surface made of concrete  
D. in dwelling units

23. What percentage fill (%) is used to install power conductors used in auxiliary gutters?  
A. 100%.  
B. 75%.  
C. 40%.  
D. 20%.

24. Where would the MSDS sheet be placed if a new container shows up on site?  
A. Attach the sheet to new container.  
B. Place sheet in MSDS book.  
C. Supervisor’s desk.  
D. Manager's office
25. What type of test is performed to test the insulation of conductors?
A. Hi pot.
B. Voltmeter.
C. Ammeter.
D. Wattmeter.

26. Where the records would be kept on a GFCI inspection in a building?
A. Attach record to GFCI.
B. Electrical maintenance log.
D. Maintenance log book.

27. How are exit lights switched?
A. A manual switch.
B. An emergency pull station.
C. Automatically on failure of emergency power supply.
D. Automatic transfer switch that energizes on failure of normal power source.

28. What type of enclosure is required in a location where occasional temporary submersion is necessary?
A. Type 1
B. Type 2
C. Type 5
D. Type 6P

29. Where must a switch be mounted in a finished basement that has no other exit?
A. Top of the stairs.
B. Bottom of stairs.
C. Entrance to basement.
D. In utility room next to electrical panel.

30. In figure below, how many circuit breakers protect equipment from source to motor CM 10?
A. 1
B. 2
C. 3
D. 4

31. If a 3-phase motor is rotating in the wrong direction how would an electrician fix it?
A. interchange black and green conductors
B. interchange red and black conductors
C. interchange red and white conductors
D. interchange blue and white conductors
32. When would you install the receptacle cover plates in a dwelling unit?
A. After installation of baseboard
B. After final coat of paint
C. Before installation of baseboard
D. After inspection

33. What is the expansion that will happen of a RPVC conduit that is 30m long and is installed in an area where temperature change will be from -45°C to +35°C?
A. 110.3mm.
B. 124.8mm
C. 221.3 mm.
D. 353.4mm.

34. What must be done with a battery in an emergency supply system?
A. Keep maintained and fully charged.
B. Be maintained at not less than 75% of full charge.
C. Be maintained at 50% of full charge.
D. No need to keep fully charged all the time.

35. What must be done when EMT is run through a fire wall?
A. Must be grounded on both sides.
B. Must slope upwards into room with most hazards.
C. Must be smoke proof.
D. Must be sealed.

36. If an electrician replaces a NEMA starter with an IEC starter, what type of time delay fuse would he use?
A. Type D.
B. Type P
C. Type J
D. Type R

37. What must be done when communication cables are run through a wall that is rated for fire protection?
A. Shall be installed in rigid steel or aluminum conduit.
B. Shall be properly closed or sealed in accordance with National Building Code.
C. Shall not be run through firewalls.
D. Must be sloped upwards into the room requiring fire protection.

38. What size of conductor is needed to supply a 10A load placed 7.1m away and source voltage is 6V? The voltage drop allowed in this installation is 5%.
A. #8 AWG.
B. #10 AWG.
C. #12 AWG.
D. #14 AWG.

39. What can't you use when mounting a control panel on concrete?
A. Concrete nails.
B. Concrete screws
C. Wooden plug and screws
D. Steel bolts
40. In summer, what does a condenser do in air condition mode?
A. Controls the expansion of the refrigerant.
B. Exposes the cool refrigerant to the air in the heat exchanger.
C. Compresses the refrigerant.
D. Cools the hot compressed refrigerant vapor.

41. New magnetic overload keeps tripping how do you fix the problem?
A. Replace with lower value overloads.
B. Replace with higher value overloads.
C. Adjust new overloads settings.
D. Run without overloads.

42. How is a low voltage thermostat wired with a hot air furnace?
A. In series with coil.
B. In parallel to the coil.
C. In parallel to the gas valve.
D. In series with fan.

43. When bonding ground rods using CAD welding what is the last material on top?
A. Bonding cable.
B. Welding mold.
C. The ignition compound.
D. Welding compound.

44. Diagram below, three fuses protect a star connected motor. Line to line voltage is 480 volts, if fuse #3 blows what will the reading be of meter on line #3?

A. 0 volts
B. 277 volts.
C. 480 volts
D. 825 volts

45. What are the minimum cover requirements for a NMSC installed under a driveway of a dwelling unit when circuit voltage is 600V?
A. 150mm
B. 450mm
C. 600mm
D. 900mm
PRACTICE EXAM 3 - ANSWERS

1. C  T45→34AxT29→34x2.5→85→T13→80A
2. C  Rule 18-052-(2)(b)
3. C  Trade knowledge
4. A  Rule 62-120(1)
5. B  Rule 20-102(1)
6. D  Rule 12-3022(7), 4-010(3)
7. D
8. D  4KV/√3=2.3KV
9. D
10. B
11. A
12. B  Rule 16-000 1(b)
13. A  Rule 60-400(2)
14. C  Rule 6-206(1)(c)(iv)
15. A  Rule 26-248 (3)(A)
16. A  Rule 56-202(1)
17. B  Rule 68-056,T61
18. B  Rule 12-3034, T23
19. B  300/√3=173 KVA
20. C  Rule 26-208 (1)
22. D  Rule 12-804,12-806(c)
23. D  Rule 12-1904 (1)
24. B  Trade knowledge
25. A
26. B
27. D
28. D  Rule 2-400(1), Table 65
29. A
30. C
31. B
32. B
33. B  ΔL=Lr x α x Δt=130x0.052x80=124.8mm
34. A  Rule 46-104b
35. D  Rule 2-128
36. A  Rule 14-200(2)
37. B  Rule 60-310 and 2-132
38. A  Table D4
39. C
40. D
41. C
42. A
43. C
44. B
45. D  Rule 12-012, Table 53