

EV Charging Equipment Installation – Sample Paper 2

- 1. What would be required in order to provide smart EV charging within a prosumers electrical installation?**
 - a. An EEMS
 - b. A DC EVSE
 - c. An AC EVSE
 - d. A type AC RCD

- 2. What is the required standard for a socket outlet where an EV may supply a fixed installation?**
 - a. BS EN 60309
 - b. BS EN 60332
 - c. BS EN 60947
 - d. BS EN 62196

- 3. Which is a requirement of island mode of a prosumers electrical installation?**
 - a. The island earthing arrangement must stay connected to the grid
 - b. The island earthing arrangement must be disconnected from the grid
 - c. AN electric vehicle must stay connected to the installation
 - d. An electric vehicle must be disconnected from the grid

- 4. Which 2 modes of charging would potentially allow an EV battery to be utilised for V2G supplies**
 - a. 1 & 2
 - b. 2 & 3
 - c. 3 & 4
 - d. 4 & 1

- 5. Which organisation should immediately be consulted regarding adequate supplies should multiple charging points be required in close geographical areas such as a private car park?**
 - a. DNO
 - b. Equipment manufactures
 - c. Local authority
 - d. Highways agency

- 6. Which component should a client be instructed to self-test at regular intervals?**
 - a. Cable insulation
 - b. RCD,s
 - c. Earth continuity
 - d. MCBs

- 7. What is the maximum disconnection time for a charging circuit rated at 16A when forming part of a TN-S system within an attached garage**
- 0.2 seconds
 - 0.4 seconds
 - 1.0 second
 - 5.0 seconds
- 8. What should be fitted on, or adjacent to a device used for isolating charging equipment**
- An indicator lamp that shows when the equipment is on
 - A label indicating the period between operational tests
 - A key & lock which can secure the isolator when off
 - A label or notice indicating the purpose the device
- 9. An RCD is to provide additional protection for a circuit supplying an EVSE, what is the maximum operating time when tested at $x I$**
- 0.1s
 - 0.2s
 - 0.3s
 - 0.4s
- 10. What would be the maximum earth fault loop impedance test value on a circuit supplying charging equipment for the criteria below?
Maximum Z_s as per BS 7671 is 1.37Ω , factor for operating & ambient temperature is 0.8**
- Measured value 1.37Ω
 - Measured value 1.22Ω
 - Measured value 1.09Ω
 - Measured value 0.8Ω
- 11. Which of the following forms part of a functional test**
- Earth electrode resistance
 - RCD test button operation
 - Earth continuity proving
 - Correct supply polarity
- 12. Which is correct in relation to a circuit's earth fault loop impedance test results**
- Higher impedance allows a higher fault current and a shorter disconnection time
 - A lower impedance allows a higher fault current and a shorter disconnection time
 - A lower impedance allows a lower fault current and a longer disconnection time
 - A higher impedance allows a higher fault current and a longer disconnection time

- 13. What is the minimum permitted value of insulation resistance for a single-phase circuit supplying charging equipment**
- a. 0.25 MΩ
 - b. 0.5 MΩ
 - c. 1.0 MΩ
 - d. 5.0 MΩ
- 14. Which test should be conducted first when carrying out an initial verification of a newly installed charging equipment supply circuit**
- a. Continuity of ring final circuit
 - b. Insulation resistance
 - c. Continuity of CPC
 - d. Polarity
- 15. Which category within a schedule of inspections would concealed cables suitably protected by a 30 mA RCD general type be recorded under**
- a. Basic protection
 - b. Isolation & switching
 - c. Distribution equipment
 - d. Additional protection
- 16. Which of the following should be verified by inspection for charging equipment located outdoors**
- a. Suitable IP rated to IP44
 - b. Rated below 2 KW
 - c. Earth fault loop impedance
 - d. Continuity of CPC
- 17. Which document would be completed and handed to the client on completion of works which involves moving an existing charging point**
- a. TRO/TMO
 - b. DNO notification
 - c. Minor works certificate
 - d. Electrical installation certificate
- 18. What details relating to the supply must be given on an EIC**
- a. Name of DNO
 - b. Sub station location
 - c. Earthing arrangement
 - d. Name of energy supplier

19. Which of the following features would be included on charging equipment where charging occurs during times of reduced rates

- a. GPRS device
- b. Built in timer
- c. Suppliers meter
- d. Energy use meter

20. What is a type I vehicle inlet and plug also known as

- a. A Yazaki connector
- b. A Mennekes connector
- c. An EV plug alliance connector
- d. A standard I3A plug connector

21. Which of the following describes a case A charging connector

- a. The charging cable is permanently attached to the vehicle
- b. The charging cables detached from the vehicle and charging equipment
- c. The charging cable is permanently attached to the charging equipment
- d. The charging cable is permanently attached to the vehicle and charging equipment

22. Which mode of EVSE could include rapid DC charging equipment

- a. Mode 1
- b. Mode 2
- c. Mode3
- d. Mode 4

23. What is the maximum rating for a socket outlet as part of mode 2 charging

- a. 13A
- b. 16A
- c. 32A
- d. 63A

24. Which would describe mode I EVSE?

- a. A tethered cable for EV charging
- b. A dedicated socket outlet for EV charging
- c. A standard socket outlet with an inline cable RCD
- d. A standard socket outlet with no in cable control box

25. When should EV outlets have RCD protection?

- a) When their rated 16 amps or higher
- b) Always
- c) When the outlet is installed outside
- d) When the outlet is installed on a petrol station

26. Which one of the following is the category of charging cable permanently connected to the vehicle?

- a) Case A
- b) Case B
- c) Case C
- d) Case D

27. What is the purpose of an Initial verification?

- a) To check that the installation complies, so far as reasonably practicable, with BS7671.
- b) To provide a detailed report on the condition of the installation and check signs of deterioration.
- c) To ensure the requirement of the Electricity at Work Regulations have been met.
- d) To provide an engineering view, so far as reasonably practical, that the requirements of GN3 are met.

28. What must be done with a low resistance ohmmeter to ensure accurate test results are obtained each time it is used?

- a) Calibration
- b) Lead zeroing
- c) Battery replacement
- d) Test on a known supply

29. You have installed a 90°C thermosetting multi core armoured supplying a EVSE point. What voltage do you test the cable at for insulation resistance?

- a) 250V dc
- b) 500V dc
- c) 250V ac
- d) 1000v dc

30. Which one of the following provides pen protection?

- a) A 30mA RCD
- b) An isolating transformer
- c) An RDC-DD
- d) An SPD

Sample Paper 2	Answers
1	A
2	A
3	B
4	C
5	A
6	B
7	B
8	D
9	C
10	C
11	B
12	B
13	C
14	C
15	D
16	A
17	C
18	C
19	D
20	A
21	A
22	D
23	C
24	D
25	B
26	A
27	A
28	B
29	B
30	B