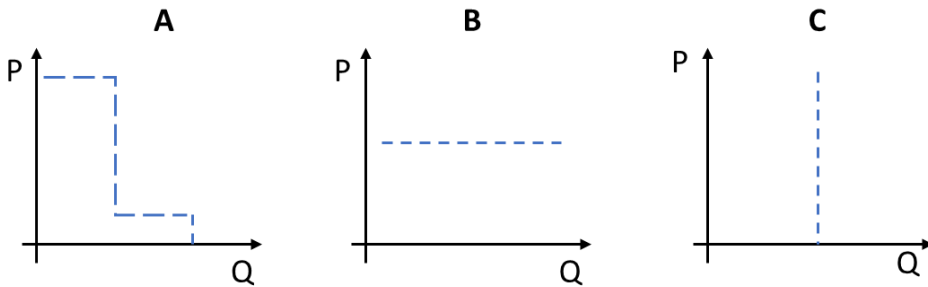


1. Which statement is correct?

- a) Marginal Cost is always (at each level of production) less than Average Variable Cost
- b) Marginal Cost shows how much does is cost to produce the first unit
- c) Marginal Cost shows how much does is cost to produce one additional unit
- d) None of the statement are correct

2. From the graphs below, which one does not depict demand curve?



- a) B and C
- b) B
- c) A
- d) All could be a demand curve

Exchange participant "A" on Day Ahead Market submits a price acceptance [within technical limits] order for selling 10 MWH on May 15, 2021, 13:00-14:00. Participants "B" for the same time submits order to buy 7 MWH and willing to pay max 100 GEL/MWH.

Assume that there are no other participants. Answer questions 3 and 4

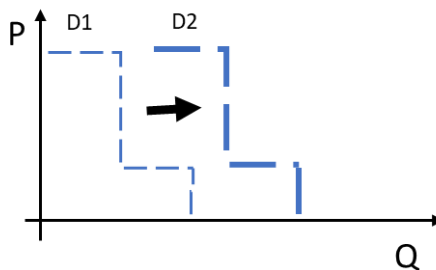
3. How much electricity is traded on the Day Ahead market?

- a) 8.5
- b) 7
- c) 10
- d) 9.9

4. What is a market price?

- a) Price equals to minimum technical price limit
- b) 99.9
- c) 100
- d) 3000

5. If market (aggregated) demand curve shift right as depicted on the graph ($D1 \gg D2$), then one can say that:



- a) Demand on the market has increased
- b) Demand on the market has decreased
- c) Supply on the market has decreased
- d) None of above are correct

6. From the statement below, which one is always correct?

- a) Individual Demand curve on P;Q coordinate map is always on the left side of the market (aggregated) demand curve if there are other buyers on the market
- b) Individual Demand curve on P;Q coordinate map is always on the right side of the market (aggregated) demand curve if there are no other buyers on the market
- c) Individual Demand curve coincides with the market (aggregated) demand curve
- d) None of the statement are correct

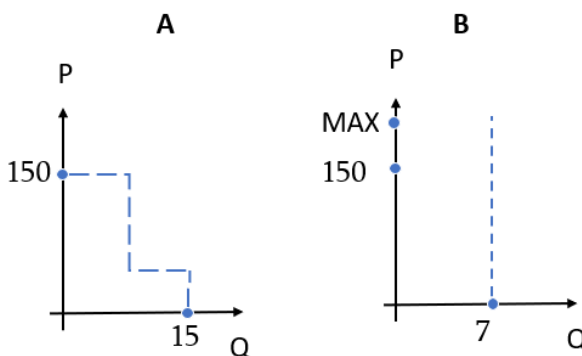
7. From the statement below, which one is not correct?

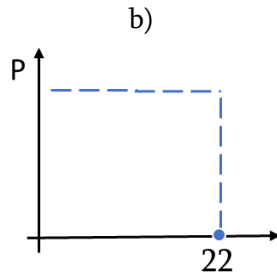
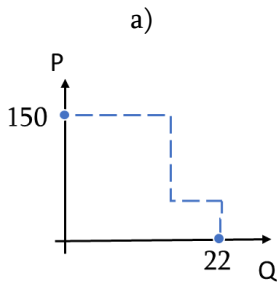
- a) Demand on electricity in the short run period is inelastic
- b) If price increase does not affect demand, we can say that demand is elastic
- c) At the equilibrium point demand equals to supply
- d) „a“ and „b“

8. The goal of competitive firm is to:

- a) Maximize revenue
- b) Minimize cost
- c) Maximize profit
- d) Maintain price stability

9. Individual demand curves of firm “A” and “B” are depicted on the graph. If there are no other participants on the market, which of the graph could be market (aggregated) demand curve?





c) None

d) Provided information is not enough to answer this questions

The information about company costs is provided in the table below. Answer Questions 10-14 based on the information from the table.

Q	TC	MC	TVC	TFC	AVC	AFC	ATC
0		0	0	9			
1		E	15	9			
2		12	27	9			
3	A	9	D	9	B	C	

Q – Production quantity

TC – Total Cost

MC – Marginal cost

TVC – Total Variable Cost

TFC – Total Fixed Cost

AVC – Average Variable Cost

AFC – Average Fixed Cost

ATC – Average Total Cost

10. Which number corresponds to cell C?

- a) 12 b) 3 c) 36 d) None of the answers are correct

11. Which number corresponds to cell D?

- a) 36 b) 39 c) 27 d) None of the answers are correct

12. Which number corresponds to cell A?

- a) 45 b) 108 c) 18 d) None of the answers are correct

13. Which number corresponds to cell B?

- a) 12 b) 3 c) 36 d) None of the answers are correct

14. Which number corresponds to cell E?

- a) 0 b) 9 c) 15 d) None of the answers are correct

15. Competitive electricity producer (market participant), which cannot affect market price (is price taker), wants to sell electricity on competitive electricity day ahead market. Producer has fixed Marginal Cost of 12 GEL/MWH and it has

no possibility to shift production and sell electricity on other market segment and in different time period. Producer defined three strategies for trading on the Day Ahead Market:

- A. Offer planned production to the market at any price (at minimum technical price limit). Hence producer is selling electricity at any market price
- B. Offer planned production to the market at a price equal to its marginal cost
- C. Offer planned production to the market at a price equal to its average total cost because fixed cost should also be compensated from the electricity sold on day ahead market

From the strategies above, which one should be chosen by producer to guarantee profit maximization/loss minimization at any market price?

- a) A b) B c) C
- d) None of those strategies will be chosen. Profit maximization is not a goal for a competitive firm and other strategy, which maximizes its revenue, should be considered

In the questions given below, the term “Market Rules” refers to the “Electricity Day-Ahead and Intraday Market Rules” approved by 11 Aug 2020 N46 Resolution of the Georgian National Energy and Water Supply Regulatory Commission

16. In the order submitted at the day-ahead market, a participant indicated that it agreed to sell 50 MWh electricity, at 50 GEL per unit, for the period of 13:00-14:00, 7 Aug 2021. The order was fully satisfied. The price of electricity for the period of 13:00-14:00, 7 Aug 2021, was 70 GEL/MWh. According to the Market Rules, the financial settlement with this participant will take place at the:

- a) Price offered by this participant (50 Gel/MWh), hence the market price is defined for potential investors only and a participant received the amount given in its order
- b) Market price (70 Gel/MWh)
- c) The weighted average of prices offered by sellers of electricity
- d) The arithmetic mean of prices given in the order of this participant and the purchase order which was matched with it, provided that the purchase offer includes a higher price

17. A producer of electricity wants to sell electricity at the day-ahead market. The electricity is planned to be generated within the period of 14:00-15:00 (CET), 3 Oct 2021, Sunday. According to the Market Rules, in this case:

- a) To submit the order, the participant has 24 hours, which will be completed on 13:00 (CET) 1 Oct 2021 and the auction will be held on 1 Oct as well, hence the day before the physical delivery of electricity (2 Oct) is a non-business day
- b) To submit the order, the participant has 24 hours, which will be completed on 12:00 (CET) 2 Oct 2021 and the auction will be held on 2 Oct as well, hence the auction is held each calendar day, the day before the physical delivery of electricity
- c) To submit the order, the participant has two weeks, which will be completed on 12:00 (CET) 2 Oct 2021 and the auction will be held on 2 Oct as well, hence the auction is held each calendar day, the day before the physical delivery of electricity
- d) To submit the order, the participant has one week, which will be completed on 12:00 (CET) 1 Oct 2021, hence 2 Oct is a non-business day, however, the auction will be held on 2 Oct, the day before the physical delivery of electricity.

18. A large consumer submitted an order at the day-ahead market, however, before the gate closure (auction closure), the electricity consumption plan was changed and now the consumer wants to purchase the less quantity of electricity. What choice does a participant have, according to the Market Rules?

- a) The participant is allowed to submit a new order before the gate closure. The order that has been submitted last will participate in the auction
- b) The participant is not allowed to change the already submitted order on its own, so it shall contact the Exchange Operator in order to change the order
- c) The order will not be changed, hence it is automatically matched with another order, which has already been submitted in the system
- d) The participant shall wait for the gate closure and contact the Exchange Operator afterward, to cancel the order

19. With regard to submission of an order at the day-ahead market, which of the following statements is not right, according to the Market Rules?

- a) A participant is allowed to submit a standard hourly order at the day-ahead market
- b) A standard hourly order means, that the participant agrees on sale/purchase of the quantity of electricity included in it, fully or partially
- c) Trading at the day-ahead market cannot result in the purchase or sale of the quantity of electricity that is more than it was indicated in the participant's standard hourly order
- d) Trading at the day-ahead market cannot result in the purchase or sale of the quantity of electricity that is less than it was indicated in the participant's standard hourly order

20. With regard to the establishment of the market equilibrium, which of the following statements is not right, according to the Market Rules?

- a) If several sale/purchase orders indicate the same price, however, the demand exists on purchase/sale of only a part of electricity offered at this price, the orders will be satisfied pro rata
- b) The market equilibrium is established the day after the gate closure, by 13:00 of the day of physical delivery of electricity
- c) For the establishment of the market equilibrium, the Exchange Operator uses the European Markets Integration Algorithm (EUPHEMIA)
- d) If supply and demand curves do not intersect due to deficit or oversupply, the Exchange Operator will proportionally reduce the quantities in relevant orders, until the curves intersect

21. According to the Market Rules, participants are informed about the day-ahead market trading results:

- a) Once the market equilibrium is established, no later than 13:00 of the trading day
- b) The day after the market equilibrium is established, no later than 13:00
- c) The deadline for informing the participants is not defined by the Market Rules and is dependent on the decision of the Exchange Operator
- d) After the data is sent to the Balancing and Ancillary Services Market Operator and the confirmation on the authenticity of the orders is received, but no later than 16:00 (CET) of the trading day

22. With regard to submitting the information to the Balancing and Ancillary Services Market Operator, which of the following statements is right, according to the Market Rules?

- a) The Exchange Operator does not send the day-ahead trading results (nominations) to the Balancing and Ancillary Services Market Operator, hence only a market participant has a responsibility to submit nominations
- b) The Exchange Operator shall send the day-ahead trading results (nominations) to the Balancing and Ancillary Services Market Operator, no later than 16:00 (CET) of the next business day after the trading day

- c) The Exchange Operator shall send the day-ahead trading results (nominations) to the Balancing and Ancillary Services Market Operator, no later than 15:00 (CET) of the trading day
- d) The Exchange Operator shall send the day-ahead trading results (nominations) to the Balancing and Ancillary Services Market Operator, within an hour after receiving the request in the pre-approved form from the latter, but no earlier than one hour after the gate closure

23. The Exchange Participant can be a person, who meets the following requirement:

- a) Is a member of a balancing group
- b) Possesses a generation or consumption unit
- c) Has a bilateral contract on purchase or sale of electricity
- d) All the answers are right

24. Complete the following sentence in accordance with the Market Rules: "If a participant makes an error while trading at the day-ahead market,

- a) It shall immediately inform the Exchange Operator, who has a right to take a measure in order to reduce the risk of damage to this or other participant and the market
- b) It should not inform the Exchange Operator, hence the detection of participants' errors and relevant response is a responsibility of the Exchange Operator
- c) It should notify the Balancing and Ancillary Services Market Operator
- d) It shall immediately inform the Exchange Operator, who must take all possible measures to reduce the risk of damage to this or other participant and the market

25. The order can be placed on the platform in the following format:

- a) Any Excel file of any format;
- b) Through the form developed in advance by the Exchange Operator;
- c) The standard form of order is available on the platform;
- d) Developed in advance by the Exchange Operator and approved by the Regulatory Commission.

26. Participation on the Exchange or its respective segment may be terminated if:

- a) The participant refuses to participate in the Exchange on his / her initiative;
- b) Grounds defined by Market rules for registration as a participant no longer exist;
- c) The participant systematically (twice or more during the calendar year) grossly violates these Rules and the Exchange Operator believes that this participant should be deprived of the right to trade on the Exchange;
- d) All of the above.

27. Based on Electricity Market Rules the Exchange Operator is the:

- a) Day-ahead market;
- b) Intraday market;
- c) Day-ahead and Intraday Market;
- d) Day-ahead, Intraday, and OTC market.

28. On the Day-ahead market following sales orders are satisfied:

- a) Where the price is less than the market price;

- b) Where the price is more than or equal to the market price;
- c) Where the price is more than the market price;
- d) Where the price is less than or equal to the market price.

29. Which of the statement is incorrect “on Intraday market participants can trade...”

- a) For the next day before the Day-ahead market closes;
- b) 15 minutes before the physical delivery of electricity;
- c) 30 minutes before the physical delivery of electricity;
- d) All of the statements are incorrect.

30. On the Intraday market the best price order is:

- a) In the case of a newly placed purchase order, the best order is the sale order with the lowest price, and in the case of a newly placed sale order, the best order is the purchase order with the highest price;
- b) In the case of a newly placed purchase order, the best order is the sale order with the highest price, and in the case of a newly placed sale order, the best order is the purchase order with the lowest price;
- c) In the case of a newly placed purchase order, the best order is the sale order with the lowest price, and in the case of a newly placed sale order, the best order is the purchase order with the same price;
- d) In the case of newly placed purchase and sale orders the best order is the purchase /sale order with the same price.

In the questions below, the term "platform" uses the definition of market rules

31. The following statements are given for placing an order on the platform:

- I. When filling in the Price Steps, the numbers must be rounded to hundreds
- II. The positive numbers in the order reflect the sales bid
- III. The amount to be purchased or for sale in the order should be rounded up to tens
- IV. A negative number in the order reflects the sale bid

Which of the above statements is correct?

- A) I, II and IV
- B) II, III, and IV
- C) I, III and IV.
- D) None

The participant wants to sell electricity on day-ahead electricity of Georgia, in the period 19: 00-20: 00 on April 18, 2021. The participant wants to

- offer 110 MWh of electricity to the market (sell) when the price will be more than 100 GEL;
- Offer 150 MWh of electricity to the market (sell) when the price will be more than 200 GEL;

In order to sell electricity, the participant places an order on the market. The table below shows part of the order.

Answer questions 32-36 according to the market rules:

Price Steps	-500.00	100.00	A	B	C	3000.00
...
19:00-20:00	0.0	0.0	D	-110.0	E	-150.0
...

32. What number should be written in box A?

- A) 100 B) 100.10 C) 100.01 D) 200

33. What value should be written in box B?

- A) 200.1 B) 200.01 C) 200.00 D) 150.00

34. What value should be written in box C?

- A) 200.00 B) 200.01 C) 200.1 D) 3000

35. What value should be written in box D?

- A) 110.0 B) 110.00 C) -110.0 D) -110.00

36. What value should be written in box E?

- A) -150.0 B) -100.0 C) -100 D) -150.1

37. According to the given order, which statement is correct?

Price Steps	-500.00	90.00	90.01	3000.00
Hour 1	100.0	100.0	-300.0	-300.0

- A) The given order is filled in incorrectly because the technical limits of the platform are not provided
- B) None of the statements are correct
- C) The given order is filled in incorrectly because it is impossible to express both buying and selling readiness with one portfolio
- D) This order has been filled in incorrectly because the principle of rounding the quantity of electricity and the price steps is not observed.

38. How much electricity is a participant willing to sell according to the given order, if the market price will be 100 GEL / MWh?

Price Steps	-500.00	50.00	150.00	3000.00
Hour 1	0.0	0.0	-90.0	-1500.0

- A) 50 B) 0 C) 45 D)90

39. In the order placed on the day-ahead market, with the increase in the price of electricity, the quantity of electricity:

- A) Should not increase - in the order for sale
- B) Should not reduce - in the purchase order
- C) Should not reduce - in the order for sale
- D) should increase - in the order for sale

40. Part of the order on the day-ahead market is shown in the table below.

Price Steps	-500.00	100.00	100.00	200.00	3000.000
Hour 1	0.5	-100.0	-120.0	-110.0	-150.00

- I. There is an error in the order as each subsequent price must be higher than the previous one
- II. There is an error in the order because, in the sales order, the energy offered must increase with the price
- III. There is a error in the order because it contains both buying and selling bids
- IV. error in the application - the price should be rounded up to hundreds

According to the completed order template, which statements are correct?

- A) I, III and IV
- B) III and IV
- C) I, II and IV
- D) All statements are correct

1	C
2	D
3	B
4	A
5	A
6	A
7	B
8	C
9	C
10	B
11	A
12	A
13	A
14	C
15	B
16	B
17	C
18	A
19	D
20	B
21	A
22	C
23	A
24	D
25	B/C
26	D
27	C
28	D
29	1
30	A
31	C
32	C
33	C
34	B
35	C
36	A
37	B
38	C
39	C
40	C