- 1. Answer the questions as following?
 - 1.1 What is Ms-Excel?
 - 1.2 In your opinion, should business use Ms-Excel for Supply Chain?

2. What function have these icons? Give a short definition.

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3. Providing the formula at the cells below:

	A	В	C	D	E	F	G
1	Item ID	Item Name	Quantity	Cost	Amount	Discount	Price
2	1001	A	10	1200	12000	5%	11400
3	1002	В	15	800	12000	2%	
4	1003	С	24	400	9600	7%	
5	1004	D	22	1000	22000	3%	
6	1005	E	8	950	7600	1%	
7						Total	
8	Finding:						
9		Total Price					
10		Maximum Quar	ntity				
11		Minimum Quan	tity				
12		Average price					
13		Count the num	per of items				
3.:	1 E9						
3.2	2 E10						
3.3	3 E11						
3.4	4 E12						
3.5	5 E13						

4. Providing the information for the inventory.

	А	В	С	D	E
	Date	Document ID	Stock In	Stock Out	Inventory
1					Value
2	05-Jan-18	D001	1000		1000
3	06-Jan-18	D002	5 <mark>0</mark> 00		
4	07-Jan-18	D003		1200	
5	08-Jan-18	D004		800	
6	09-Jan-18	D005		2200	
7	10-Jan-18	D006	4500		
8	11-Jan-18	D007		3700	
9		Total			
10					

What is the formula at the cell as follows?

- 4.1 E2 _____
- 4.2 E3 _____
- 4.3 E4 _____
- 4.4 C9

 4.5 What is the amount of inventory at E10?
- 5. Providing the information in the table of material cost.

	А	B C		D	E	
1	Quarter	Material A	Material B			
2	Quarter	Price/Unit	Price/Unit			
3	1,2	35	70			
4	3	50	75			
5	4	70	100			
6						
	Item	Quarter	Quantity of	Quantity of	Material costs	
7			Material A	material B		
8	101	2	13	5	805	
9	102	1	15	5		
10	103	3	2	2		
11	104	4	10	3		
12	105	1	13	5		
13	106	3	3	2		
14	107	2	3	5		
15	108	1	13	3		
16	109	4	10	6		
17	112	4	13	2		
18				TOTAL		

What is the formula at the cell as follows?

5.1 E10	
5.2 E11	
5.3 E12	
5.4 What is the material cost at E17?	
5.5 What is the total cost at E18?	

6. Manufacturers rely on the information that is included in the Bill of Materials (BOM) to build a product. **BOM example**

Bill of Materials (BOM) for bicycle				Bicycle BOM (Bill of Materials)						
Din Of 1			ycie	(Fir	Level 0 hished Good)		ľ	licycle 1 pc.)		
Asse	embly Name :			(Mair	Level 1 n Components)		Wheel (2 pcs.)		Frame (1 pc.)	
Assem	bly Number :			(Sul	Level 2	Rim (2 pcs.)	Tire S	ipokes 12 pcs.)	Color	
Assem	bly Revision :			(50)	Level 3		Tire Valve (2 pcs.)			
Ар	Total Cost :	0			Lough A	Bolt	Nut	Сар		
					Level 4	(1 pc.)	(1pc.) ((1 pc.)		
Parent	Part #	Description	BOM	Qty	Unit Cos	t (\$)	Cost (\$)			
	Total									

Could you provide the BOM, the details are as follows:

- 6.1 Giving a name of product
- 6.2 Providing the <u>hierarchical structure</u> of assemblies and their related parts and components. You should provide the hierarchical structure <u>at least 3 levels (0-2)</u>.
- 6.3 Writing the example table and data in the BOM

<u>Note:</u> You could design your own BOM and data in the table.

7. **Reorder point (ROP) control** is widely used and forms the basis for understanding other methods. In the following notes, a **period** is a consistent unit of time used for planning. Depending on the supply chain, it may be an hour, day, week or month. The important point is to maintain **consistency** throughout the calculations.

For each Stock Keeping Unit (SKU), ROP requires us to define:

Forecast demand per period (D) – how much we expect to use/sell

Supplier lead time (LTs) – time expressed in periods between submitting an order and receiving delivery

Planned order size (Q) – normal quantity of product we plan to order each time Safety

stock (SS) - target stock on hand just before we receive an order

Review time (R) – time interval expressed in periods between reviews of stock levels to determine whether to place an order

Process lead time (LTp) – time expressed in periods from receipt of goods to their being available to the customer

We then derive:

Effective lead time (ELT) = LTs + LTp + ½ R

Lead time demand (LTD) = ELT x D

Reorder point (ROP) = SS + LTD

Order-up-to level = ROP + Q

Each time we review the stock, we count: Stock on hand - real stock on the shelf

Stock on order - the total outstanding orders from the supplier

Back-orders – any stock ordered by a customer

We derive:

Effective stock = stock on hand + stock on order – backorders We place an order if:

Effective stock <= ROP

The amount we order is:

ROP + Q – Effective stock

Fill the formula and the number/formula as follows:

	A B		С	D
1	Forecast dem	and (D)	5	units per week
2	Supplier lead	time (LTs)	4	weeks
3	Review time -	R	1	weeks
4	Process lead t	time (LTp)	0	weeks
5	Planned orde	r size (Q)	5	units
6	Safety stock (SS)	10	units
7				
8	Effective lead	time (ELT)		weeks
9	Lead time der	mand (LTD)		units
10	Reorder point	t (ROP)		units
11	Order up to			units
12				
13	Stock on hand	b	8	units
14	Stock on orde	er	16	units
15	Back-orders		0	units
16				
17	Effective stoc	k		units
18				
19	Place an orde	er?		
20	Order size			units

Formula at:

