- If this part of the bank model has an error ,what is it? (في الصورةerror 5%)
  A. dispose modules should be swapped
  B. has no error   ***********
  c. The type should be 2-way condition
  d. The percentage should be 5%

  7 *⅛- 420 Min

- Customers arrive with expo(5),bank opens 8:00 am given it is 3:00 pm or after the process
  takes TRIA(2,5,10)
  Answer : 3 errors (units hour, first creation 420,)

- Which of the following is adv of Simulation
  A. Can be usually performed by hand or small calculator
  B. gives exact answers
  C. does not interface with real life world *********
  D. Allows what if type questions ********

- The following data are times between arrivals from a poisson arrival process(in mins) 3,5,8,4 A
  reasonable arena input model for the times between arrival would be
  A. Random.Expo (5) ************
  B. Random Exp (0.2)
  C.Randoom.Possion(5)
  D.Random.Possion(0.2)

- One of the following is not an even
  A. when the simulation clock hits final simulation time
  B. Arrival of the second entity
  C. Entity leaving the queue and starts service **********
  D. Third entity leaves the service

- Adding a delay for two mins instead of a route that takes two mins
  A.   This would work from modeling/numerical output viewpoints
  B.   This would not allow animation of part transfers
  C.   All of above ***********

- Repeating the simulation for 3 times with each run for a length will result in a sample size of
  A.   50
  B.   3 *************
  C.   150
  D.   Depend on the last enters the queue

- For the model (ATM) shown , if the replication length is set to be 8 hours the final output
  entities
  will be
  A.150
  B. I do not know (I need to run it to figure it out)
  C. Zero
  D. One

- In the simulation doing more than one replication will make the system valid
  A. True
  B. False ********************

- Non stationary arrival processes is a probabilistic model that
  A. Means the interarrival time distribution is not exponential
  B. Reflects statists gathered before reaching steady-state
  C. Reflects time varying arrival patterns **************
  D. Reflects arrivals according to specific schedule

- What was the performance measure of the interest for the call center case study?
  A. Percentage of calls forwarded to the sales from order status
  B. Number of calls for technical calls type1,2, and 3
  C. Percentage of calls successfully answered ******************
  D. The service time of salespersons

- Given that the replication length is very long, we expect the model(Gluing model) to
  A. The output will be one entity
  B. Reach a steady-state very fast
  C. The queue will keep growing incrementally *********
  D. The resource will be underutilized

- Delay module from the block panel includes by default the store and the un-store module
  A. True ***********
  B. False

- The part of the model might have an error , what is it ? (صورة ال insurance فيها نسبة 7%)
  A. Has no error
  B. The percentage should be 93% ************
  C. Dispose modules should be swapped
  D. Decide rule should be 2 way by condition

- The create module shown below for the clinic system how many errors are there (every entry separately)

  Answer: 3 errors

- Patient arrive at clinic closes at 3:00 pm TRA (0,5,2,3) and nurse takes TRIA(7,10,20)
  A. True*********************
  B. False

- One of the following is a valid termination condition for the bank problem
  - A. TNOW >= 420 && TotalWP == 0 ************
  - B. TNOW >= 0 && TotalWp == 0
  - C. TNOW >= 420 II TotalWp == 0
  - D. TNOW == 420 && TotalWp == 0

- The main difference between the static and dynamic simulation models is that in the dynamic state of the system can change continuously
  - A. True
  - B. False ***************

1) Ensuring that the model behaves in the way it was intended is called verification
2) One of the problems in the queuing theory analysis approach in queuing system is the time frame, which is due to the assumption should be at steady state
3) If a model is simple enough, it is better to use traditional mathematical approach
4) The news vendor problem is an example of static, discrete, stochastic.
5) Making too many assumptions about a system to build a model may lead you to working on the wrong problem, an issue that you should realize by validation.
6) For a simulation model with an output of 15 and utilization of 85%, doubling the interarrival time distribution parameter is expected to, decrease the output, and decrease the utilization.
7) Comparing results from the simulation with actual data from the real system is helpful to validate the model.
8) Repeating the simulation for 3 times each each run for a length of 50 hours will result in a sample size of 3
9) In simulation, increasing the sample size will result in a better estimation of the quantity and bigger error FALSE.
10) The maximum waiting time in queue is an example of the worst-case measure TRUE
11) The excel function RAND () can be used to generate random numbers between 0 and 1 TRUE
12) To simulate a uniform distribution, use the excel expression a+(b-c) * RAND () TRUE
13) Not releasing a resource before leaving the model might cause
    Many entities will build up in queue, the output will be zero, it should be realized by verification not validation, syntax error due to entity trying to take the resource out of the system.
14) If all analysis methods of a system are applicable with no limitations, the best approach is mathematical modeling using linear programming.
15) A supermarket manager tried actual different policies for inventory to see which policy gives the highest performance. This is not simulation? TRUE
16) The simulation clock for a discrete event dynamic stochastic model jumps in discrete equal increments of time in the defined time units. For example, 1 sec, 2 sec, 3 sec. FALSE
17) The concept of steady state implies that after a long enough time the system will not change with respect to time TRUE
18) The waiting time for entities in queue are time persistent data FALSE
19) If a system changes significantly with respect to time, it is said to be stochastic. FALSE
20) When solving a problem, it is more powerful to use simulation rather than traditional methods given that both are applicable. FALSE
21) Special computer packages have been developed to undertake real life simulation. TRUE

22) Random numbers are used to Assign values to the parameters.
23) First step in simulation is to Define the problem.
24) A snapshot of the system at particular point in time characterized by values of the variable that are necessary for determining the future evaluation of the system from the present time Steady state.
25) A limited quantity of items that are used (seized or released) by entities as they proceed through the system (Resource
26) A set of interrelated components that act together over time to achieve common objectives System

27) An object of interest in the system whose movement or operation within the system may cause the occurrence of events Entity
28) A property or variable that is associated with an entity Attribute
29) Advantages of simulation?
    Simulation does not interfere with the real-world system.
    Simulation allows what if types of question.
30) Making too many assumptions about a system to build a model may lead you to be working on the wrong problem, an issue that should be realized by verification FALSE
31) If a model is simple enough it is better to use traditional mathematical tools like queuing theory, differential equation methods, or something like liner programming TRUE.
32) The Buffon needle problem to estimate the value of, is an example of dynamic simulation FALSE
33) In correctly specifying the delay logic in the process module from "seize delay release to seize delay" is an issue that should be fixed using Verification
34) A failure policy must attach to two resources FALSE
35) Global expressions stores formulas as well as numbers, it can be scalar or vector or matrix TRUE
36) You may have, or than entity type and multiple realizations of the entities in the same system TRUE
37) A limited storage space is best modeled by QUEUE resource تكون
38) A VARIABLE does mot store formula it just stores numbers, and it can be one of the following types: scalar or vector or matrix
39) One of the following is not an event? Entity leaving the queue and starts service
40) User defined values associated with individual entities, such as customer type, product size, time job entered the system etc. are examples of ATTRIBUTES
41) A VARIABLE is a global quantity that can be initiated and changed during simulation.
42) A set of approximations and assumptions, both structural and quantitative, about the way the system will work. This is the definition of Logical Model.
43) If a system changes significantly with respect to time, it is said to be Dynamic
44) The Buffon needle problem to estimate the value of pi is an example of Monte-Carlo (static) simulation
45) Over simplifying a model by making assumptions will allow us to use traditional methods easily TRUE
46) In the simulation when doing more than one replication the system will be valid FALSE