Answer the following Question:

(Q1) Multiple Choice Questions: (10 Mark)

1- Decision at the operational level tend to be more:
   A. Programmed decision   **B-** Tactical decision
   C. Semi-structured decision   **D-** Unstructured decision.

2- Which management level includes the president and vice-presidents of the firm?
   A. Strategic planning level   **b-** Management control level
   c- Tactical planning level   **d-** Operational control level

3- …………… may involve a probalistic decision situation. plan.
   A. Structured decision   **b-** Semi-structured decision
   c- Unstructured decisio

4- According to Simon, which problem-solving activity is defined as assessing past choices?
   A. Intelligence   **b-** Choice
   c- Review   **d-** Evaluation

5- …………….. support the decision-making needs of strategic management, tactical management and operating management.
   A. Management support systems   **b-** Operation support systems
   c- Knowledge management system.   **d-** all the above.

6- ………….. are management support system tailored to the strategic information needs of top and middle management.
   A. e-Commerce systems   **b-** Strategic Information Systems
   c. Executive Information systems.   **d-** Management Information systems

7- When the information system directly interacts with the processes, it is referred to as:
   A – strategic advantage   **b-** operational advantage
   c- tactical advantage   **d-** mid-level advantage

8. The name given to the information system model that was able to solve identified problems was:
   A- decision support system   b- Structured decision system
   C-Ttransaction processing system   D- Executive information system.

9-What type of problem occurs when the problem solver understands no elements or relationships between elements?
   A – Structured problem   b-Unstructured problem
   C-Semi–Structured problem

10-The activity of providing machines as computers with the ability to display behavior similar to that of an intelligent human is referred to as:
   A. Artificial intelligence   **B. GDSS**   **C. DSS**

11-……………….. is ameasure of the use of inputs to achieve outputs doing the thing right.
   A – effectiveness.   B- efficiency
   C-increased productivity

12- Which term represents a selected course of action, and recognizes that usually it is necessary to make multiple decisions in the process of solving a single problem?
   A. Problem solving   B. Problem
   C. Decision making   D. Decision

13- Top-level managers use ……………models to help them
   A – Operational   B- Tachtical
   C- Strategic

14. A user, systems software, a database, and a set of decision models form a(n):
   A- MIS   B- DSS
   C- ESS   D- TPS

15- The part of a DSS that gives the DSS its analytical capabilities
   A. System software   B. Spread sheet
   C. Query langauage   D. Decision models.

16. ………Supports decision making by analyzing given time-series of data and returning new information gained by those analysis.
   A. Data-driven DSS   b. Model-driven DSS
   C. Knowledge-based DSS

17 . The selection of a Location to build a new plant would be classified as what type of problem?
   A. Capital decision   b. Unstructured problem
   C. Structured decision   d. Semi-structured Decision

18. The most popular type of model is :
   A. Physical model   B. narrative model
   C. Mathematical Model   D. graphical model

19. Which type of information system provides information to upper-level managers on the overall performance of the firm?
   A. Management information system
   B. Executive support system
   C. Human resources information system
   D. Marketing information system

20. A satificing model is one that selects the best solution among alternative
   A. True   B. false

(Q2) : Suppose that a decision maker faced three decision alternatives and Three states of nature develop the following profit payoff table: **(15 Mark)**

Decision Alternative	States of nature			Expected Profit
	S1	S2	S3	
X1	24	10	16	15
X2	12	N	8	19
X3	16	14	20	16

If you have advance the following:
1. **Probabilities for sate of nature :**
    P(s1)=0.25   P(s2)=0.50   P(s3)=0.25
2. **Outcomes are *profit* in millions of pounds.**

  <u>*Required:*</u>
(1) Determine the expected value of perfect Information.
(2) If the decision maker knows nothing about the probabilities of the Three states of natures what is recommended decision using the Optimistic, Conservative and Regret approach?

(Q3): *Write in details about the following topics* :   (10 points)
   1- Types of Decision Support Systems?   **(3 point)**
   2- The Components and structure of DSS?   **(4 point)**
   3- The basic elements of ANNs?   **(3 point)**

(Q4) Consider a single Neuron that learns the inclusive AND operation. There are two input elements, X1 and X2. If either or both of them have a positive value, the result is also positive value; this can be shown as follows: **(15 Mark)**

Case	X1	X2	Desired Results
1	0	0	0
2	0	1	0
3	1	0	0
4	1	1	1

If you have advance the following:
- Parameter Alpha is 0.2
- Initial weights are 0.1 , 0.3.

Required:

  Calculate final weights.

(Q5) Some Managers want to price a new product for the next five years, the alternatives that they have are 6, 7, 8 and 9 L.E per unit. After evaluating competitors pricing tendency they determined the following price and outcomes table: **(10 Mark)**

Years / Price	(1)	(2)	(3)	(4)	(5)
6	8	12	9	13	6
7	12	9	10	8	9
8	10	7	13	5	16
9	20	6	8	4	15

  <u>*Required :*</u>
  Find the best pricing strategy and maximum profit, <u>*Considering that,*</u> the managers want to avoid any major changes in price from one year to another, so they decided that the changes in price between any year and the next year should not exceed from "1" L.E.

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Good Luck,,,,