1. Which of the following is not a class of policies for resource management?
    a. Admission Control
    b. Capacity Allocation
    c. Bandwidth Management
    d. Load Balancing
2. ____ is referred to a process of distributing the workload evenly among the servers
    a. Load Balancing
    b. Capacity Allocation
    c. Admission Control
    d. None of above
3. _____ policy uses the feedback to guarantee system stability and predict transient behavior
    a. Control Theory Policy
    b. Machine Learning Policy
    c. Utility Based Policy
    d. Market Oriented/economic mechanisms
4. _____ policy is a technique could be applied to coordination of several autonomic system managers.
    a. Control Theory Policy
    b. Machine Learning Policy
    c. Utility Based Policy
    d. Market Oriented/economic mechanisms
5. _____ policy approaches require a performance model and a mechanism to correlate user-level performance with cost
    a. Control Theory Policy
    b. Machine Learning Policy
    c. Utility Based Policy
    d. Market Oriented/economic mechanisms
6. ____ is a system component of a two level resource allocation architecture, used to estimate relevant measures of performance
    a. Sensors
    b. Controller
    c. QoS Guarantees
    d. Actuators
7. _____ component of a feedback controller is used to carry out the necessary actions
    a. Sensors
    b. Moniotrs
    c. Actuators
    d. Controller
8. ____ is the value of a parameter related to the state of a system that triggers a change in the system behavior.
    a. Sensors

b. Monitors
c. Threshold
d. Actuators

9. A _____ threshold could be based on an average of measurements carried out over a time interval.
   a. Dynamic
   b. Static
   c. Proportional
   d. None of above
10. _____ *control* means that very detailed information about the parameters controlling the system state is used
   a. Coarse
   b. Fine
   c. Threshold
   d. All of above
11. Abbreviation of IPMI is.
   a) Interactive Power Management Interface
   b) Interactive Platform Management Interface
   c) Intelligent Performance Management Interface
   d) Intelligent Platform Management Interface
12. In utility function n_c denotes
   a. Number of clients
   b. Powercap
   c. Number of applications
   d. Response time
13. The optimal powercap is defined as p^{max}_k
   a. $p^{opt}_k(nc)=\arg\max \breve{U}(p_k,n_c)$
   b. $\breve{U}(p_k,n_c)=U_{pp}(R(p_k,n_c),P(p_k,n_c))$
   c. $p^{max}_k(nc)=\arg\max \breve{U}(p_k,n_c)$
   d. $U(p_k,n_c)=U_{pp}(R(p_k,n_c),P(p_k,n_c))$
14. The goal of utility based approach for autonomic management is
   a. to maximize the total profit computed as the difference between the revenue guaranteed by an SLA and the total cost to provide the services
   b. to maximize the revenue
   c. to minimize the cost of services
   d. to maximize the cost of services
15. the slope of the utility function is defined as
   a. $m_k=-v_k^{max}/r_k^{max}$
   b. $v_k=v_k^{max}(1-r_k/r_k^{max})$
   c. $\breve{U}(p_k,n_c)=U_{pp}(R(p_k,n_c),P(p_k,n_c))$
   d. $U(p_k,n_c)=U_{pp}(R(p_k,n_c),P(p_k,n_c))$
16. according to the max-min criterion, which of the following conditions must be satisfied by a fair allocation
   a. The amount received by any user is not larger than the amount requested, $B_i \_ b_i$.
   b. If the minimum allocation of any user is B_{min} no allocation satisfying condition C_1 has a higher B_{min} than the current allocation.
   c. When we remove the user receiving theminimum allocation B_{min} and then reduce the total amount of the resource available from B to $(B - B_{min})$, the condition C_2 remains recursively true.
   d. All of above
17. Which of the following algorithms are used for real time applications
   a. Earliest deadline first
   b. Round-robin,
   c. SJF
   d. Above of the above
18. Which of the following scheduling algorithm is used for best effort applications
   a. Earliest Deadline First
   b. Rate Monotonic Algorithm

c. FCFS
d. Rate based earliest deadline

19. Which of the following algorithm works on bit by bit round robin strategy
    a. Fair queuing
    b. Start time Fair queuing
    c. Borrowed virtual time
    d. All of above
20. Which of the following algorithm organizes the consumers of CPU bandwidth in a tree structure
    a. Fair Queuing
    b. Start time Fair queuing
    c. Borrowed virtual time
    d. All of above
21. Which algorithm supports low-latency dispatching of real-time applications
    a. Fair Queuing
    b. Start time Fair queuing
    c. Borrowed virtual time
    d. All of above
22. Expand BVT
    a. *borrowed virtual time*
    b. *bit virtual time*
    c. *binary virtual time*
    d. *bind virtual time*
23. *Expand SVT*
    a. *scheduler virtual time*
    b. *sliced virtual time*
    c. *start virtual timer*
    d. *none of above*
24. *Expand RMA*
    a. Rate monotonic algorithms
    b. random monotonic algorithm
    c. rate mandatory algorithm
    d. random memory access
    e.