1. The reason for the implementation of the cache memory is \_\_\_\_\_\_\_\_

a) To increase the internal memory of the system

b) The difference in speeds of operation of the processor and memory

c) To reduce the memory access and cycle time

d) All of the mentioned

Answer: b

Explanation: This difference in the speeds of operation of the system caused it to be inefficient.

2. The effectiveness of the cache memory is based on the property of \_\_\_\_\_\_\_\_

a) Locality of reference

b) Memory localisation

c) Memory size

d) None of the mentioned

Answer: a

Explanation: This means that the cache depends on the location in the memory that is referenced often.

3. The temporal aspect of the locality of reference means \_\_\_\_\_\_\_\_

a) That the recently executed instruction won’t be executed soon

b) That the recently executed instruction is temporarily not referenced

c) That the recently executed instruction will be executed soon again

d) None of the mentioned

Answer: c

Explanation: None.

4. The spatial aspect of the locality of reference means \_\_\_\_\_\_\_\_

a) That the recently executed instruction is executed again next

b) That the recently executed won’t be executed again

c) That the instruction executed will be executed at a later time

d) That the instruction in close proximity of the instruction executed will be executed in future

Answer: d

Explanation: The spatial aspect of locality of reference tells that the nearby instruction is more likely to be executed in future.

5. The correspondence between the main memory blocks and those in the cache is given by \_\_\_\_\_\_\_\_\_

a) Hash function

b) Mapping function

c) Locale function

d) Assign function

Answer: b

Explanation: The mapping function is used to map the contents of the memory to the cache.

6. The algorithm to remove and place new contents into the cache is called \_\_\_\_\_\_\_

a) Replacement algorithm

b) Renewal algorithm

c) Updation

d) None of the mentioned

Answer: a

Explanation: As the cache gets full, older contents of the cache are swapped out with newer contents. This decision is taken by the algorithm.

7. The write-through procedure is used \_\_\_\_\_\_\_\_

a) To write onto the memory directly

b) To write and read from memory simultaneously

c) To write directly on the memory and the cache simultaneously

d) None of the mentioned

Answer: c

Explanation: When write operation is issued then the corresponding operation is performed.

8. The bit used to signify that the cache location is updated is \_\_\_\_\_\_\_\_

a) Dirty bit

b) Update bit

c) Reference bit

d) Flag bit

Answer: a

Explanation: When the cache location is updated in order to signal to the processor this bit is used.

9. The copy-back protocol is used \_\_\_\_\_\_\_\_

a) To copy the contents of the memory onto the cache

b) To update the contents of the memory from the cache

c) To remove the contents of the cache and push it on to the memory

d) None of the mentioned

Answer: b

Explanation: This is another way of performing the write operation, wherein the cache is updated first and then the memory.

10. The approach where the memory contents are transferred directly to the processor from the memory is called \_\_\_\_\_\_

a) Read-later

b) Read-through

c) Early-start

d) None of the mentioned

Answer: c

Explanation: None.