Quiz: Simple Queue Service

1. Which one of these choices is not correct about Amazon Simple Queue Service (SQS)?
    A. You can Decouple and Coordinate components
    B. Multiple applications can consume same message and perform different actions
    C. Handle scenarios where consumer service may not be available temporarily

2. Standard Queue does not offer this:
    A. Maximum throughput
    B. Guaranteed Queue semantics and ordering
    C. At-least-once delivery

3. FIFO Queue does not offer this:
    A. Increased throughput when compared to standard
    B. Exactly-once processing
    C. Guaranteed Queue semantics and ordering

4. When you store a message in Simple Queue Service (SQS), message is stored redundantly across:
    A. One Availability Zone
    B. Across Availability Zones you select
    C. Multiple availability zones in a region

5. With Simple Queue Service, when a consumer receives a message:
    A. Message is removed from the queue
    B. Message is still in the queue and available for other consumers after delay timeout expires
    C. Message is still in the queue and made available to other consumer if visibility timeout period expires

6. You are using SQS for order processing.

    A consumer application receives a message and processing it. However, due to system slowness, the processing time exceeds visibility timeout.

    How should the consumer application handle this scenario?

    A. Consumer application must increase the visibility timeout for the message
    B. Consumer must read the same message again
    C. Do nothing – SQS automatically handles this

7. A consumer of a message in SQS should:
    A. Receive message, process, and delete message from queue
    B. Receive message, delete message from queue, process message
    C. Receive message, process, and delete message from queue before visibility timeout expires

8. A dead queue is used to handle:
    A. Invalid messages
    B. Messages that have stayed in queue for longer than retention period
    C. Messages that were not processed successfully after specified number of retries

9. Maximum size of a message in SQS can be upto:
    A. 128 KB
    B. 1 MB
    C. 10 MB
    D. 256 KB

10. A single request (send, receive, delete) in SQS can process up to:
    A. Exactly one message
    B. User Specified
    C. Up to 10 messages

11. Application polls a queue based on best effort basis; application can go down for extended periods. You would need the messages to be available in the queue so that application can process it when it comes back online. What is the maximum message retention period?
    A. 14 days
    B. 4 days
    C. 24 hours

12. With Short Polling, when there are no messages in the queue, receive call would:
    A. Return immediately with empty response
    B. Block until a message is available

13. With Long Polling, when there are no messages in the queue, receive call with WaitTimeSeconds of 20 seconds would:
    A. Return immediately with empty response
    B. Block until a message is available
    C. Block until a message is available or wait time has elapsed

14. An application is using SQS Standard Queue. Application has set the batch size to 10 and long polling wait time to 10 seconds. There is only one message available in the queue.
    What will happen if you make a long polling receive request?

A. Call waits for 10 seconds before returning
B. Call returns immediately with 1 available message
C. Call waits for 10 messages to be available

15. You want to prioritize messages into High, Medium, Low categories with priority determining the order of processing. High priority messages need to be processed first followed by medium and then low. How can you handle this with SQS?
    A. Configure SQS as Priority Queues
    B. Create three separate queues one for each priority
    C. Use FIFO Message Group ID Capability
    D. Use Standard Queue with priority queuing

Answers:

1. B - SQS makes it simple and cost-effective to decouple and coordinate the components of a cloud application. Message is intended to be consumed by a single consumer. If SQS Queue is created per consumer (typically done in fan out architecture), then it can buffer messages until consumer application comes back online. Messages are retained for the configured retention period (up to 14 days)
2. B - SQS standard queues offer maximum throughput, best-effort ordering, and at-least-once delivery
3. A - SQS FIFO queues are designed to guarantee that messages are processed exactly once, in the exact order that they are sent, with limited throughput when compared to Standard Queue
4. C – SQS is a fully managed service and multiple copies of every message are stored redundantly across multiple availability zones in a region
5. C - Message is still in the queue until it is deleted by the consumer within visibility timeout. If timeout expires, message is made available to the next consumer
6. A – Consumer application must increase the visibility timeout for that message; otherwise, the message would be made available to another consumer
7. C – In a distributed system, components of a solution can fail and that includes consumer application. To ensure messages are processed, recommended pattern is: receive message, process it and then delete it. All these three activities must happen before visibility timeout expires.
8. C – When a dead letter queue (DLQ) is configured for a source queue, unsuccessful messages are moved to the Dead Letter Queue after the maximum number of deliveries you specify have been reached. This is used for handling poison-pill messages (messages with invalid content) that application is not able to handle
9. D – Maximum message size can be up to 256 KB
10. C - Messages can be sent, received or deleted in batches of up to 10 messages
11. A – Default retention period is 4 days; however, you can set message retention period to up to 14 days. Messages older than retention period are automatically deleted
12. A – Short polling would return immediately with empty response
13. C – Long Polling would wait until a message is available or wait time has elapsed

14. B - Response to the ReceiveMessage request contains at least one of the available messages, up to the maximum number of messages specified in the ReceiveMessage action.
15. B – Standard Queue does not guarantee ordering. FIFO guarantees ordering within a Group ID. However, messages across different Group IDs can be processed in parallel. So, priority queues are not natively supported. You can have three separate queues: one for each priority