**SET 1**

1. What is ACID properties and BASE properties? (10 mark)

ACID is an acronym of Atomicity,consistency,isolation and Durability. In RDBMS every transaction process 4 fundamental properties are there that is called  
 ACID property.All transactions had to obey these features defined within the contract parameters either happened or didn’t happen, and could not be changed once committed.  
Atomicity: Beign an atomic unit of work a trasaction can be either complitley sucessfully or rollback whole.If one element of a transaction fails the entire transaction fails.  
Consistany : this property is gaurenteed the transformation of dbfrom one consistend state to another state  
Isolation: No transaction has access to any other transaction that is in an intermediate or unfinished state because each transaction is independent unto itself.This is required  
for both performance and consistency of transactions within a database.  
Durability : After the successfull completion of transaction it is gaurantee that the transaction will leave permenent effect even if there is a system failure.  
  
BASE is essentially the diametric opposite to ACID.Base is an acronym of Basicaly Available, Soft State and Eventual Consistency.  
Basically Avaliable: the system guarantees some level of availability to the data even in regards to node failures. The data may be stale, but will still give and accept responses.  
Soft State – the data is in a constant state of flux so, while a response maybe given, the freshness or consistency of the data is not guaranteed to be the most current.  
Eventualy Constencey: the data will eventualy be consistent through all nodes and in all databases, but not every transaction at every moment. It will reach some guaranteed state eventualy.

1. What are the differences between paging and segmentation? (10 mark)

Paging is program which divides the page to fixed or mounted pages. But in segmentation it divides to variable size sections.It is faster than segmentation. Logical address is spliting of code to page numbers and page offset. But in segmentation the logic is split into section number and section offset.

Q. Explain the OOPS principles. (10 mark)

OOPS is also called Object Oriented Programming. It’s a programming paradigm based on concept of Objects in programming language. Objects are nothing but something it contains data. These data are contains in form of fields and code in the form of procedures. Inheritance, Abstraction, Encapsulation, and Polymorphism are the basic principles of OOP.

Data Abstraction: it refers to the act of representing essential features  without including the background details or explanations.  
  
Encapsulation: the wrapping up the data and operations or functions that operate on the data into a single class is encapsulation.  
also encapsulation is a way to implement data abstarction and encasulation hides the details of the implementation of an object.  
  
Modularity: it is the property  of  a system that has been decomposed  into a set of cohesive and loosely coupled modules. also it reduces  
complexity to some degree and creates anumber of well-defined bounderies in the program.  
  
Inheritance:it is the capability of one class of things to derive capabiliteis or properties from another class.

Q .What will happen when you write www.google.com in your web browser?

1. Browser checks cache; if requested object is in cache and is fresh, skip to #9
2. Browser asks OS for server's IP address
3. OS makes a DNS lookup and replies the IP address to the browser
4. Browser opens a TCP connection to server (this step is much more complex with HTTPS)
5. Browser sends the HTTP request through TCP connection
6. Browser receives HTTP response and may close the TCP connection, or reuse it for another request
7. Browser checks if the response is a redirect (3xx result status codes), authorization request (401), error (4xx and 5xx), etc.; these are handled differently from normal responses (2xx)
8. If cacheable, response is stored in cache
9. Browser decodes response (e.g. if it's gzipped)
10. Browser determines what to do with response (e.g. is it a HTML page, is it an image, is it a sound clip?)
11. Browser renders response, or offers a download dialog for unrecognized types
12. D. All of the mentioned
13. A. Banker’s Algorithm
14. A. there must be a fixed number of resources to allocate
15. C. Bootstrap Program
16. B. Old