1. How does one receive keyboard input?

2. How does one see if an object is an instance of a particular class?

3. How does one call a method in Java? Give example code.

4. How does one call a method that throws an Exception? Give example code.

5. How does one convert a String to an array and back?

6. How does one create an Enumeration?
7. Show the code for a for loop in Java.

8. How does one parse through a string?

9. Show what one does in order to abruptly exit a loop.

10. How does one code basic file I/O?

11. How does one read from stdin and write to stdout and stderr?

12. How does one create a single variable that all instances of a class can access?
13. How does one use an interface? You may use example code to help.

14. How does one explicitly call a method in a super class?

15. How does one copy pixels from one spot in the window to another?

II. Answer the following questions regarding threads.
1. How does one launch a thread?
2. Explain how the methods `wait`, `notify` and `notifyAll` are used to coordinate activities across threads.

3. What interface must threads implement?

4. Describe the use of the following thread control methods: One or two sentences is enough for each one.
   a. start
   b. suspend
   c. sleep
   d. join
   e. interrupt
III. Answer the following questions about network programming and sockets.
   a. Compare and contrast UDP and TCP functionality.
   b. What is the relationship of a stream to a socket?
   c. What class does the method getNetAddress() belong to and what is the purpose of this method?
   d. What protocol does http use at the transport layer (i.e. does it use UDP or TCP?)
IV. What are the two ways of transmitting an object from one host to another on a network? What does serialization have to do with this?

V. What is meant by the Java "Virtual Machine"? How does it affect what we can do with Java?

VI. The following questions deal with databases and their interfaces. State whether they are true or false. If they are false, then explain why.

1. A foreign key uniquely identifies each row in a table.
2. A distributed application divides tasks across multiple computer systems.

3. A table in a database consists of rows and records.

4. In PHP, the dbx module interfaces directly to the database.

5. MYSQL is a non-portable database that can only be used on the Windows platform.

VII. Explain the difference between cookies and sessions with Servlets.

VIII. Compare and contrast servlets and CGI as means for writing WEB applications. Describe briefly how each works and give the advantages and disadvantages of each.
IX. Explain how "Tied Variables" are used in the Shopping Cart Example.

X. Explain how `fetchall_arrayref()` is used in the Shopping Cart Example.

XI. Compare and Contrast the two HTTP commands "Get" and "Post." How do they work and what are their advantages and disadvantages?
XII. What is the result of each of the six lines of the following Perl script?

1. open(PASSWD,"/etc/passwd") || die "Can't open: $!\n";
2. while(chop($line = <PASSWD>)) {
   3. print "---$line---\n" if $line =~ /root/;
}
4. seek(PASSWD,0,0) || die "$!\n"
5. while(<PASSWD>) {print if /ellie/}
6. close(PASSWD);

XIII. Give the Servlet life cycle. That is, give the methods that a normal servlet must execute in order to satisfy client requests.

XIV. Give the standard steps in querying databases with JDBC.
XV. Explain how a client accesses a remote object that exists on a server using RMI. The client needs a local stub object. How can the client request such a stub? What problems must be resolved in order to do this?