4(a) What is the purpose of the switch statement? How does this statement differ from the other statements? 2.5

4 a) Answer: A **switch** statement allows a variable to be tested for equality against a list of values. Each value is called a case, and the variable being switched on is checked for each **switch case**.

```
switch(expression) {
  case constant-expression  :
    statement(s);
     break; /* optional */
  /* you can have any number of case statements */
  default : /* Optional */
  statement(s);
}
```

1. SWITCH statement is easier to express for lengthy conditions when compared to an IF statement which gets more complex as the number of conditions grow and the nested IF comes into play.

2. SWITCH statement allows easy proofreading while testing and removing bugs from the source code whereas IF statement makes editing difficult.

3. Expression is evaluated and SWITCH statement is run according to the result of the expression that can be integer or logical while IF statement is run only if the result of the expression is true.

4. SWITCH allows expression to have integer based evaluation while IF statement allows both integer and character based evaluation.

5. SWITCH statement can be executed with all cases if the 'break' statement is not used whereas IF statement has to be true to be executed further..