* Identify the logic operation

a) AND
b) NAND
c) NOR
d) OR

Ans: d)

* The given truth table is for

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
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<tbody>
<tr>
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<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

a) AND
b) OR
c) NAND
d) NOR

Ans: c)

* For the given digital CKt, Write the truth table & Identify the logic gate
a) OR
b) NOR
c) NAND
d) AND

Ans: c)

* Universal gates are
  a) NAND & NOR
  b) NAND & NOT
  c) NOR & NOT
  d) AND, OR & NOT

  Ans: a)

* In n type Semi-conductor, electrons are majority carriers but it does not show any –ve charge the reason is . . .
  a) Electrons are stationary
  b) Electrons Neutralize with Holes
  c) Mobility of electrons is extremely small
  d) Atom is electrically neutral

  Ans: d)

* The CKt has two oppositely connected ideal diodes in parallel what is the current following in the CKt
a) 1.71A  
b) 2A  
c) 2.31A  
d) 1.33A  

Ans: a)

* Which of the following not correct  
  a) Forward biased diode conducts  
  b) For a transistor to operate in active region EBJ & CBJ forward biased  
  c) \( I_E = I_B + I_C \)  
  d) Base layer is thin.  

Ans: b)

* Which of the following is not true?  
  a) Diode can be used as a rectifier.  
  b) Transistor can be used as a rectifier.  
  c) Diode can be used as an amplifier.  
  d) Transistor can be used as an amplifier.  

Ans: c)

* Choose the correct statement  
  a) \( \beta = \frac{\alpha}{1 - \alpha} \)  
  b) \( \alpha = \frac{\Delta I_C}{\Delta I_E} \)  
  c) \( \beta = \frac{\Delta I_C}{\Delta I_R} \)  
  d) All of these  

Ans: d)

* If \( \alpha \) - current gain of a transistor is 0.98, What is the value of \( \beta \) - current gain
In a transistor, the collector current varies by 0.49mA, emitter current varies by 0.5mA, current gain $\beta$ is measured as

a) 49  
b) 150  
c) 99  
d) 100

Ans: a)