**DAILY ASSESSMENT FORMAT**

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| **Date:** | **09-06-2020** | **Name:** | **Anand kumar k** |
| **Course:** |  | **USN:** | **4al16ec002** |
| **Topic:** | **MOSFET** | **Semester & Section:** | **8thsem ‘A’ sec** |
| **Github Repository:** | **Anand-courses** |  |  |

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| **FORENOON SESSION DETAILS** |
| **Image of session**      The Metal Oxide Semiconductor Field Effect Transistor (MOSFET) is one type of FET transistor. In these transistors the gate terminal is electrically insulated from the current carrying channel so that it is also called as Insulated Gate FET (IG-FET). Due to the insulation between gate and source terminals the input resistance of MOSFET may be very high such as in mega ohms.  Like JFET the MOSFET also acts as a voltage controlled resistor when no current flows into the gate terminal. The small voltage at the gate terminal controls the current flow through the channel between the source and drain terminals.  In present days, the MOSFET transistors are mostly used in the electronic circuit applications instead of the JFET.    Like JFET, the MOSFET transistors also have three terminals, such as Drain (D), Source (S) and Gate (G) and also one more terminal called substrate or Body (B) is used in the circuit connections. The MOSFETs are also available in both types, N-channel (NMOS) and P-channel (PMOS). The MOSFETs are basically classified in to two forms they are Depletion type and Enhancement type transistors.  Depletion type  The depletion type MOSFET transistor is equivalent to a “normally closed” switch. The depletion type of transistors requires gate – source voltage (VGS) to switch OFF the device. The symbols for depletion mode of MOSFETs in both N-channel and P-channel types are shown above. In the above symbols we can observe that the fourth terminal substrate is connected to the ground, but in discrete MOSFETs it is connected to source terminal. The continuous thick line connected between the drain and source terminal represents the depletion type. The arrow symbol indicates the type of channel, such as N-channel or P-channel. In this type of MOSFETs a thin layer of silicon is deposited below the gate terminal. The depletion mode MOSFET transistors are generally ON at zero gate-source voltage (VGS). The conductivity of the channel in depletion MOSFETs is less compared to the enhancement type of MOSFETs.  Enhancement type  The Enhancement mode MOSFET is equivalent to “Normally Open” switch and these types of transistors require gate-source voltage to switch ON the device. Here we can observe that the broken line is connected between the source and drain which represents the enhancement mode type. In enhancement mode MOSFETs the conductivity increases by increasing the oxide layer which adds the carriers to the channel.  Generally, this oxide layer is called as ‘Inversion layer’. The channel is formed between the drain and source in the opposite type to the substrate, such as N-channel is made with a P-type substrate and P-channel is made with an N-type substrate. The conductivity of the channel due to electrons or holes depends on N-type or P-type channel respectively.  The construction of the MOSFET is very different as compared to the construction of the JFET. In both enhancement and depletion modes of MOSFETs an electric field is produced by gate voltage which changes the flow charge carriers, such as electrons for N-channel and holes for P-channel.  Here we observed that the gate terminal is injected into the thin metal oxide insulated layer at the top and two N-type regions are used below the drain and source terminals.  In the above MOSFET structure the channel between drain and source is an N-type which is formed opposite to the P-type substrate. It is easy to bias the MOSFET gate terminal for the polarities of either positive (+ve) or negative (-ve).  If there is no bias at the gate terminal, then the MOSFET is generally in non-conducting state so that these MOSFETs are used to make switches and logic gates. |
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| **Date:** | **09-06-2020** | **Name:** | **Anand kumar k** | |
| **Course:** |  | **USN:** | **4al16ec002** | |
| **Topic:** | **mysql** | **Semester & Section:** | **8thsem ‘A’ sec** | |
| **AFTERNOON SESSION DETAILS** | | | |
| **Image of session** | | | |
| **1.Setting up A PHP editor**  **2.Introduction to bluefish**  **3. Installing XAMPP**  **4. Downloading PHP Snippets**  **5. PHP comments** | | | |