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**DF-3038**  
**Second Year B. Sc. (Electronics)**  
**(Sem. III) Examination**  
**March / April – 2016**  
**Paper : Generic Elective**  
**(Circuit Simulation)**

Time : 2 Hours]

[Total Marks : 50

**Instructions :**

(1)

<p>નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : SECOND YEAR B. Sc. (ELECTRONICS) (SEM. 3)</p> <p>Name of the Subject : Paper : Generic Elective (Circuit Simulation)</p> <p>Subject Code No. : 3 0 3 8 Section No. (1, 2,.....) : Nil</p>	<p>Seat No. : <input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; margin-top: 10px;">Student's Signature</div>
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- (2) There are 50 questions of one mark each with four options.  
(3) All questions are compulsory.

***O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ  
O.M.R. Sheet-ની પાછળ છાપેલ છે.***  
***Important instructions to fillup O.M.R. Sheet  
is given on back side of the provided O.M.R. Sheet.***

- 1 \_\_\_\_\_ specifies the time interval in which schematics automatically saves any modified schematics or libraries.  
 (A) Gravity (B) Stay on grid  
 (C) Snap to grid (D) Auto save interval
- 2 To display the attribute editing dialog box  
 (A) Right click the part  
 (B) Single click the part  
 (C) left click the part  
 (D) Double click the part
- 3 Select the wrong sentence  
 (A) Double click the part to display the attribute editing dialog box  
 (B) Schematics allows you to change an attribute on multiple parts at the same time  
 (C) Schematics does not allow you to change an attribute on multiple parts at the same time  
 (D) Size determines the size of the text
- 4 A Grid is  
 (A) line matrix outside the work area  
 (B) dot matrix within the work area  
 (C) line matrix within the work area  
 (D) dot matrix outside the work area
- 5 \_\_\_\_\_ Sets up simulation analyses for the active schematic.  
 (A) Simulator (B) Snap – to – pin  
 (C) Analysis set up (D) Snap – to – grid
- 6 To view bias point values in your schematic  
 (A) All of these  
 (B) Use buttons on the simulation toolbar  
 (C) Use VIEWPOINT symbol  
 (D) Use IPROBE symbol
- 7 \_\_\_\_\_ maintains connectivity between parts when they are moved.  
 (A) All (B) Rubberband  
 (C) Gravity (D) Orthogonal
- 8 For Diode characteristics which sweep Analysis is used ?  
 (A) None of these  
 (B) ac sweep and noise  
 (C) dc sweep  
 (D) ac & dc sweep
- 9 File that contains the electrical definition of one or more parts  
 (A) Stimulus file (B) Circuit file  
 (C) Netlist file (D) Model library
- 10 A model defines  
 (A) Mathematical representation of parts  
 (B) The electrical behavior of a part  
 (C) The non-electrical behavior of a part  
 (D) Graphical representation of parts

- 11 \_\_\_\_\_ is a simple multi-run analysis.
- (A) Temperature
  - (B) Noise worst case
  - (C) dc Sweep Analysis
  - (D) Monte-Carlo
- 12 Minimum requirements to run a DC sweep analysis
- (A) All of these
  - (B) Voltage or current source
  - (C) Model parameter
  - (D) Global parameter
- 13 In MicroSim libraries DBREAK indicates \_\_\_\_\_ part type.
- (A) None
  - (B) Capacitor
  - (C) Diode
  - (D) Bipolar transistor
- 14 Simulation means
- (A) The use of a mathematical model to represent the arithmetic operation of a circuit design
  - (B) The use of a physical model to represent the mathematical operation of a circuit design
  - (C) The use of a mathematical model to represent the physical operation of a circuit design
  - (D) The use of a mathematical model to represent the logical operation of a circuit design
- 15 To view the simulation results on the screen we use \_\_\_\_\_.
- (A) None
  - (B) Probe
  - (C) Port
  - (D) Strobe

- 16 To select a part from the part browser dialog box
- (A) All of these
  - (B) Type the name in the part name text box
  - (C) Select the part name from the full list of part names
  - (D) Select the part name from the library's list of parts
- 17 For frequency response of a circuit which sweep analysis is used ?
- (A) ac sweep
  - (B) ac sweep and noise
  - (C) dc sweep
  - (D) ac and dc sweep
- 18 Full form of FPGA is
- (A) Field Protecting Gate Array
  - (B) Field Programmable Gate Array
  - (C) Full Programmable Gate Array
  - (D) Field Programmable Gate Action
- 19 If anything must be done by the user or if there is warning , the prompt will display in the
- (A) Simulation toolbar
  - (B) Drawing toolbar
  - (C) Schematics toolbar
  - (D) Status bar
- 20 The function ASIN(x) in PSpice A/D means
- (A)  $\ln(x)$
  - (B)  $\sinh(x)$
  - (C)  $\sin^{-1}(x)$
  - (D)  $\sin(x)$

- 21 The pencil pointer indicates that  
(A) All the these  
(B) Ready to draw a wire  
(C) Ready to place a component  
(D) Ready to edit the schematic
- 22 To stop placing the part  
(A) None  
(B) Right click  
(C) Left click  
(D) Both
- 23 What is AKO ?  
(A) A Kind Of  
(B) All Kind Of  
(C) A Key Of  
(D) About Key of
- 24 Full form of P-spice  
(A) Particular simulation programs with integrated circuit examples  
(B) Proper simulation programs with integrated circuit examples  
(C) Personal simulation programs with integrated circuit examples  
(D) Private simulation programs with integrated circuit examples
- 25 Annotation graphics toolbar provides shortcuts for  
(A) All the these  
(B) Draw arc  
(C) Draw text  
(D) Insert picture
- 26 X and Y coordinates of the pointer is provided by  
(A) Simulation toolbar  
(B) Drawing toolbar  
(C) Schematics toolbar  
(D) Status bar
- 27 To rotate the component  
(A) Press Ctrl + X  
(B) Press Ctrl + C  
(C) Press Ctrl + V  
(D) Press Ctrl + R

- 28 When auto save is enabled schematics creates a temporary file whose file name extension ends in
- (A) 'v'
  - (B) 'a'
  - (C) 'f'
  - (D) 's'
- 29 A flipped part is
- (A) Rotated 60° counter- clockwise
  - (B) Mirrored about X – axis
  - (C) Mirrored about Y – axis
  - (D) Rotated 90° counter- clockwise
- 30 Simulation toolbar provides shortcuts for
- (A) Both Analysis setup and Simulation
  - (B) Analysis setup
  - (C) Simulation
  - (D) None
- 31 The function key used to start the simulator
- (A) F12
  - (B) F10
  - (C) F9
  - (D) F11
- 32 Schematics recognizes \_\_\_\_\_ types of libraries.
- (A) Four
  - (B) One
  - (C) Two
  - (D) Three
- 33 If the objects are to be forced onto grid when placed then
- (A) Snap to grid is enabled
  - (B) Grid on is disabled
  - (C) Stay on grid is enabled
  - (D) Stay on grid is disabled
- 34 The default grid spacing on your drawing area is
- (A) 0.20 inches
  - (B) 0.10 inches
  - (C) 0.01 inches
  - (D) 1 inch

- 35 Color of the warning message in the message viewer
- (A) Black
  - (B) Blue
  - (C) Red
  - (D) Yellow
- 36 A rotated part is rotated
- (A) 30° counter- clockwise
  - (B) 90° counter- clockwise
  - (C) 90° clockwise
  - (D) 60° counter- clockwise
- 37 For zooming out to view the full schematic page
- (A) Press ctrl + N
  - (B) Press ctrl + A
  - (C) Press ctrl + J
  - (D) Press ctrl + O
- 38 \_\_\_\_\_ allows you to select a new window centering point.
- (A) Pan – new center
  - (B) Fit
  - (C) Out
  - (D) In
- 39 P-Spice is like a –
- (A) None of these
  - (B) Hardware Breadboard
  - (C) Software Breadboard
  - (D) Printed Circuit Board
- 40 Select the correct sentence
- (A) If a component can be simulated, it will not have an associated simulation model.
  - (B) Symbol is a graphical representation used in drawing schematics.
  - (C) Packaging information is used for board layout.
  - (D) Footprint defines the names of the package types.

- 41 A package is characterized by:  
 (A) All of these  
 (B) Component name  
 (C) Package type / Foot-Print name  
 (D) Gate names, Pin names & number
- 42 Standard analysis contains the \_\_\_\_\_ test to the response of circuit to different inputs.  
 (A) Mathematical analysis  
 (B) Flow analysis  
 (C) dc, ac and transient analysis  
 (D) thermodynamics analysis
- 43 P-SPICE perform  
 (A) All of these  
 (B) Standard analysis  
 (C) Simple multi-run analysis  
 (D) Statistical analysis
- 44 \_\_\_\_\_ is a type of time based analysis.  
 (A) Noise (B) Bias point detail  
 (C) AC sweep (D) Transient
- 45 Stimulus editor is a  
 (A) All of these  
 (B) Graphical output waveform editor  
 (C) Graphical input waveform editor  
 (D) Graphical result analyzer
- 46 Schematics consists of  
 (A) Analysis  
 (B) Symbols, attributes, wires, buses, text items  
 (C) electrical parts  
 (D) simulation
- 47 Status bar is located  
 (A) At the right of the schematic editor window  
 (B) At the top of the schematic editor window  
 (C) At the bottom of the schematic editor window  
 (D) At the left of the schematic editor window
- 48 Button name to view a selected area of schematic  
 (A) Zoom to fit page (B) Zoom in  
 (C) Zoom area (D) Zoom out
- 49 Parts utility is a  
 (A) Model extractor  
 (B) Graphical output waveform editor  
 (C) Graphical input waveform editor  
 (D) Graphical result analyzer
- 50 \_\_\_\_\_ is a type of library in schematics  
 (A) Both Global and Local (B) Global  
 (C) Zoned (D) Local