

<b>Seat No.</b>	
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**M.Phil./Ph.D. Entrance Examination, August - 2018**  
**ELECTRONICS**

**Day and Date : Friday, 10 - 08 - 2018****Total Marks : 100****Time : 4.00 p.m. to 6.00 p.m.**

- Instructions :**
- 1) All questions are compulsory.
  - 2) Each question carries 2 marks.
  - 3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
  - 4) Use black ball point pen only for marking the circle. Do not make any stray mark on the OMR Answer Sheet.
  - 5) Follow the instructions given on OMR Sheet.
  - 6) Rough work shall be done on the sheet provided at the end of question paper.
  - 7) Only non programmable calculators are allowed.

- 1) What are the important features of a table or diagram included in a research report?
  - A) That it should be readily understood and helpful.
  - B) That it is easy to make.
  - C) That it is created using SPSS.
  - D) That it should be colourful.
- 2) Why are the references included in a research project?
  - A) It is courtesy to the authors of the works that you have read.
  - B) To impress lecturers.
  - C) To fully identify the source of information and ideas discussed in the report so that others may check for themselves.
  - D) To keep a record of everything that you have read in writing the report.
- 3) The ideal model for a research report is:
  - A) The journal article standard format.
  - B) A magazine article.
  - C) What other students do.
  - D) The essay format.
- 4) Of all of the steps in the research process, the one that typically takes the most time is
  - A) Formulating the problem.
  - B) Developing a hypothesis.
  - C) Selecting a research method.
  - D) Data collection.

**P.T.O.**







## M/P ENT - 125

- 28) The dominant mode in a particular guide is the mode having the \_\_\_\_\_.
- A) Lowest cutoff frequency                      B) Highest cutoff frequency  
C) Lowest cutoff wavelength                      D) Both (A) and (C)
- 29) For  $TE_{10}$  wave in rectangular waveguide the electric field at the centre of the width (a) will be \_\_\_\_\_.
- A) Same as that at edges                      B) Zero  
C) Maximum                      D) Smaller than that at edges
- 30) The Sun micro systems processors has \_\_\_\_\_ architecture.
- A) RISC                      B) ISA  
C) ANNA                      D) CISC
- 31) The important feature of the VLIW is \_\_\_\_\_.
- A) Low power consumption                      B) Cost effectiveness  
C) Performance                      D) Reduced dimensions
- 32) A useful property of the unit impulse  $\delta(t)$  is that
- A)  $\delta(at) = a\delta(t)$                       B)  $\delta(at) = \delta(t)$   
C)  $\delta(at) = (1/a)\delta(t)$                       D)  $\delta(at) = [\delta(t)]^a$
- 33) The Fourier transform of the exponential signal  $e^{j\omega_0 t}$  is
- A) A constant                      B) A rectangular gate  
C) An impulse                      D) A series of impulses.
- 34) In Delta modulation,
- A) One bit per sample is transmitted  
B) All the coded bits used for sampling are transmitted  
C) The step size is fixed  
D) Both (A) and (C) are correct
- 35) The digital modulation technique in which the step size is varied according to the variation in the slope of the input is called
- A) Delta modulation                      B) PCM  
C) Adaptive delta modulation                      D) PAM
- 36) In thick film technology, for insulating layers \_\_\_\_\_ is employed when a high dielectric constant is required.
- A) Platinum gold  
B) Fine gold  
C) Mixture of barium titanate and glass frit  
D) Both (A) and (C)



- 46) For two sided finite duration sequence ROC is \_\_\_\_\_.
- A) Entire Z-plane
  - B) Entire Z-plane except  $|Z| = \infty$
  - C) Entire Z-plane except  $|Z| = 0$  and  $|Z| = \infty$
  - D) Entire Z-plane except  $|Z| = 0$
- 47) DFT of  $\delta(n)$  is \_\_\_\_\_.
- A)  $< 1$
  - B)  $> 1$
  - C)  $= 1$
  - D)  $= 0$
- 48) \_\_\_\_\_ of the following voltage regulator is preferred for providing large values of load current
- A) Zener diode shunt regulator
  - B) Transistor series regulator
  - C) Transistor shunt regulator
  - D) None of the above
- 49) Using IC 555 a monostable multivibrator has  $R = 120 \text{ K}\Omega$  and the time delay  $T = 1000\text{ms}$  the value of C is \_\_\_\_\_.
- A)  $0.9 \mu\text{F}$
  - B)  $1.32 \mu\text{F}$
  - C)  $7.5 \mu\text{F}$
  - D)  $2.49 \mu\text{F}$
- 50) Astable multivibrator operating at 150Hz has a discharge time of 2.5m the duty cycle of the circuit is = \_\_\_\_\_.
- A) 50%
  - B) 75%
  - C) 95.99%
  - D) 37.5%



**Rough Work**