

Seat No.	
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**M.Phil./Ph.D. Entrance Examination, September - 2019****ELECTRONICS SCIENCE**

Day and Date : Thursday, 19 - 09 - 2019

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) A literature review is an important part of the research process because
  - A) It is a summary of what literature is available on your topic
  - B) My supervisor likes to create more reading for me.
  - C) I like to visit the library and read generally around my topic.
  - D) It allows you identify and read key books and articles by some of the main figures who have written in the field
  
- 2) The writing of research reports is best regarded as:
  - A) just like writing an essay
  - B) an unnecessary chore
  - C) a skill
  - D) something that most students find easy

## M/P ENT - 24

- 3) The chapter that details the way in which the research was conducted is the \_\_\_\_\_ chapter.
- A) Introduction  
B) Literature review  
C) Research methodology  
D) Data analysis
- 4) This is an idea or image specifically invented for a given research and/or theory building purpose
- A) Concept  
B) Construct  
C) Definition  
D) Variables
- 5) In order to qualify as a random sample
- A) every sub-sample of the population must be represented.  
B) the researcher must pre-test the subjects.  
C) a phone book must be used to generate random names.  
D) every member of the population must have an equal chance of being chosen.
- 6) Chi-square test is an example of
- A) Parametric test  
B) Non-Parametric test  
C) Descriptive test  
D) Survey test
- 7) The correlational research seeks to \_\_\_\_\_.
- A) Determine the relation between two or more variables  
B) Study the effect of one on other  
C) Both A and B  
D) None of these

## M/P ENT - 24

- 8) A common test in research demands much priority on
- A) Reliability
  - B) Usability
  - C) Objectivity
  - D) All of the above
- 9) If “\*” is called “+”, “/” is called “\*”, “-” is called “/”, “+” is called “-”.  
 $40/20 - 5*10 + 5 = ?$
- A) 170
  - B) 160
  - C) 150
  - D) None of these
- 10) Look closely at the letter pattern and choose the series from the options given that will correctly fill the blank at the end of the series. FAG, GAF, HAI, IAH, \_\_\_\_\_.
- A) JAK
  - B) HAL
  - C) HAK
  - D) JAI
- 11) The final result of a study will be more accurate if the sample drawn is
- A) taken randomly
  - B) fixed by quota
  - C) representative to the population
  - D) purposive
- 12) Action research means
- A) A longitudinal research
  - B) An applied research
  - C) A research initiated to solve an immediate problem
  - D) A research with socioeconomic objective

## M/P ENT - 24

- 13) As the frequency increases, the capacitive reactance \_\_\_\_\_.
- A) remains constant                      B) increases  
C) decreases                                D) becomes very high
- 14) R.M.S value means \_\_\_\_\_.
- A) root mean square                      B) rate mean second  
C) root median second                    D) rate mode second
- 15) The ability to give same output reading when same input value is applied repeatedly is known as \_\_\_\_\_.
- A) Stability                                  B) Repeatability  
C) Accuracy                                D) Sensitivity
- 16) Change in output of sensor with change in input is
- A) Threshold                                B) Slew rate  
C) Sensitivity                                D) None of the mentioned
- 17) \_\_\_\_\_ is the ability of the sensor to indicate the same output over a period of time for a constant input.
- A) Stability                                  B) Resolution  
C) Error                                        D) Impedance

- 18) \_\_\_\_\_ is the time required for an output value to settle within the specified error level.
- A) Response Time                                  B) Rise Time  
C) Settling Time                                    D) None of the above
- 19) One of the following search engine is exclusively meant for scientific information.
- A) Google    B) Yahoo  
C) SCIRUS    D) AltaVista
- 20) What is data collection?
- A) Collecting the research question and objectives together  
B) Gathering the information (data) which will help you address your research question  
C) Reviewing the literature review  
D) Outlining how you will gather the information for your research question
- 21) Low accuracy measurements from a high precision instrument are normally caused by
- A) Bias in the measurement                    B) Human errors  
C) Instrumental defect                            D) Low temperature
- 22) Which one of the following is an advantage of an excel array formula?
- A) It ensures all formulas in the range are identical  
B) A group of data can be given a convenient name  
C) You can easily overwrite the cell formulas  
D) They are quick to type

## M/P ENT - 24

- 23) Which of the following may be a primary source of information for a researcher?
- A) Encyclopedia of Educational Research
  - B) A research review article
  - C) Research paper in a professional journal
  - D) An abstract of a research study
- 24) The coefficient of correlation lies from
- A) + 1 to -1
  - B) 0 to -1
  - C) -1 to 0
  - D) +1 to 0
- 25) Applications that work with cloud computing that have low margins and usually low risk are:
- A) high touch
  - B) low touch
  - C) moderate touch
  - D) all of the mentioned
- 26) Distortion is one of the quality characteristics of \_\_\_\_\_.
- A) radio
  - B) audio
  - C) microphone
  - D) condenser
- 27) Frequency range for telephone speech is
- A) 16 Hz to 20 kHz
  - B) 100 Hz to 1000 Hz
  - C) 1500 Hz to 2500 Hz
  - D) 300 Hz to 3400 Hz

- 28) Enclosure is type of \_\_\_\_\_
- A) baffle in loudspeaker
  - B) baffle in microphone
  - C) baffle in loudspeaker and microphone
  - D) none of these
- 29) For good conductors such as metals  $\sigma/\omega\epsilon$  is \_\_\_\_\_ over the entire radio frequency spectrum.
- A) very much greater than unity
  - B) very much less than unity
  - C) 0
  - D) 1
- 30) In TEM mode electric and magnetic field vectors are \_\_\_\_\_.
- A) perpendicular to each other and perpendicular to the direction of propagation
  - B) parallel to each other and parallel to the direction of propagation
  - C) perpendicular to each other and parallel to the direction of propagation
  - D) parallel to each other and perpendicular to the direction of propagation
- 31) CISC stands for
- A) Complex Instruction Set Processor
  - B) Combine Instruction Set Processor
  - C) Compile Input Set Processor
  - D) Complex Input Set Processor
- 32) Virtual memory is a \_\_\_\_\_.
- A) large physical memory
  - B) a small part of RAM area
  - C) a small part of ROM area
  - D) external hard drive







- 43) Automatic toaster is a example of \_\_\_\_\_ system.
- A) open loop control system                      B) closed loop control system  
C) adaptive control                                      D) feed forward control
- 44) \_\_\_\_\_ technique gives quick transient and stability response.
- A) Bode plot    B) Root Locus  
C) Polar plots    D) Nyquist plot
- 45) Which of the following is reliable communication?
- A) TCP    B) IP  
C) UDP    D) All of them
- 46) Which of the following protocol is/are defined in Transport layer?
- A) FTP    B) TCP  
C) UDP    D) B&C
- 47) A LTI system is said to be stable when \_\_\_\_\_.
- A) all the poles lie inside the unit circle  
B) one of the pole lies outside the unit circle  
C) all the poles lie outside the unit circle  
D) none of the above



**Rough Work**