**Indian Air Force EC Electronic And Communication Question Paper 2011 Engineering Knowledge Test (EKT)**

Indian Air Force EC Electronic And Communication Question Paper 2011 Engineering Knowledge Test (EKT) ELECTRONICS AND COMMUNICATIONS  
  
1. In a communication system, noise is most likely to get into the system  
(A) at the transmitter  
(B) in the channel  
(C) in the information source  
(D) at the destination  
  
2. When modulation frequency is doubled, the modulation index is halved, and the modulating voltage remains constant, the modulation system is  
(A) amplitude modulation  
(B) phase modulation  
(C) frequency modulation  
(D) angle modulation  
  
3. Impedance inversion may be obtained with  
(A) a short – circuited stub  
(B) an open – circuited stub  
(C) a quarter – wave line  
(D) a half – wave line  
  
4. HIGH frequency waves are  
(A) observed by the F2 layer  
(B) reflected by D layer  
(C) capable of use for long-distance communication on the moon  
(D) affected by the solar cycle  
  
5. Which one of the following terms does not apply to the Yagi-uda array  
(A) Good band width  
(B) Parasitic elements  
(C) Folded diploe  
(D) High gain  
  
6. A duplexer is used  
(A) to couple two different antennae to a transmitter without mutual interference  
(B) to allow one antenna to be used for reception or transmission without mutual interference  
(C) to prevent interference between two antennae when they are connected to receiver  
(D) to increase the speed of the pulses in pulsed radar  
  
7. Indicate which of the following system is digital  
(A) Pulse – Position modulation  
(B) Pulse – Code modulation  
(C) Pulse – Width modulation  
(D) Pulse – Frequency modulation  
  
8. A forward error correcting code corrects errors only  
(A) requiring partial retransmission of the signal  
(B) requiring retransmission of entire signal  
(C) using parity to correct to errors in all cases  
(D) requiring no part of the signal to be transmitted  
  
9. A typical signal strength received from a geosynchronous communication satellite is of the order of  
(A) a few milli watts  
(B) kilo watts  
(C) watts  
(D) few pico watts  
  
10. Telephone traffic is measured  
(A) with echo cancellers  
(B) by the relative congestion  
(C) in terms of the grade of service  
(D) in erlangs  
  
11. Positive logic in a logic circuit is one in which  
(A) logic 0 and 1 are represented by 0 and positive voltage respectively  
(B) logic 0 and 1 are represented by negative and positive voltages respectively  
(C) logic 0 voltage level in higher than logic 1 voltage level  
(D) logic 0 voltage level is lower than logic 1 voltage level  
  
12. A half-adder can be made from  
(A) two NAND gates  
(B) a NOT gate and an OR gate  
(C) an AND gate and an OR gate  
(D) an AND gate and an X-OR gate  
  
13. Which of the following devices has its characteristics very close to that of an ideal current source.  
(A) Field effect transistor  
(B) Transistor in common bas mode  
(C) Zener diode  
(D) MOSFET  
  
14. The main use of a common base transistor amplifier is  
(A) as voltage amplifier  
(B) current amplifier  
(C) for matching a high source impedance to a low load impedance  
(D) for rectification of a.c. signal  
  
15. A class-B amplifier is biased  
(A) Just at cut-off  
(B) nearly twice cut-off  
(C) at mid point of load line  
(D) so that IB equals jut IC  
  
16. If the peak transmitted power in a radar system is increased by a factor of 16, the maximum range will be increased by a factor of  
(A) 2 (B) 4 (C) 8 (D) 16  
  
17. A high PRF will (indicate the false statement)  
(A) make the returned echoes easier to distinguish from noise  
(B) make target tracking easier with conical scanning  
(C) increase the maximum range  
(D) have no effect of the range resolution  
  
18. A solution to the “blind speed” problem in a radar system is to  
(A) change the Doppler frequency  
(B) vary the PRF  
(C) use mono pulse  
(D) use MTI  
  
19. The number of active picture elements in a television image depends on  
(A) fly back time  
(B) CRT screen size  
(C) received band width  
(D) FB ratio of receiver antenna  
  
20. In a colour TV, the three primary colours are  
(A) red, orange and blue  
(B) red, blue and green  
(C) red, green and yellow  
(D) red, orange and green  
  
PART B-5 AE (L): COMPUTER ENGINEERING  
  
1. A logic gate is an electronic circuit which  
(A) makes logic decision  
(B) allows electron flow only in one direction  
(C) works on binary algebra  
(D) alternates between 0 and 1 values  
  
2. NAND and NOR gates are called ‘universal’ gates primarily because they  
(A) are available everywhere  
(B) are widely used in IC packages  
(C) can be combined to produce AND, OR and NOT gates  
(D) are the easiest to manufacture  
  
3. The ascending order of a data hierarchy is:  
(A) bit-byte-record-field-file-data base  
(B) byte-bit-field-record-file  
(C) byte-bit-record-field-file-data base  
(D) bit-byte-field-record -file-data base  
  
4. A dumb terminal can do nothing more than communicate data to and from a CPU of a computer. How does a ‘smart’ terminal differ from dumb terminal  
(A) it has a primary memory  
(B) it has a cache memory  
(C) it has a micro processor  
(D) it has an input device  
  
5. The main distinguishing features of fifth generation digital computer will be  
(A) liberal use of micro processors  
(B) artificial intelligence  
(C) extremely low cost  
(D) versatility  
  
6. Which of the following terms is not used to refer to the recording density of a disk  
(A) mega-density (B) single-density  
(C) double-density (D) quad-density  
  
7. The two kinds of main memory are  
(A) primary and secondary  
(B) random and sequential  
(C) ROM and RAM  
(D) central and peripheral  
  
8. Which one of the following is not an octal number  
(A) 29 (B) 75 (C) 16 (D) 102  
  
9. Main problem with LCDs is that they are very difficult to read  
(A) directly  
(B) in bright light  
(C) in dull light  
(D) both (B) and (C)  
  
10. Both computer instructions and memory addresses are represented by  
(A) character codes  
(B) binary codes  
(C) binary word  
(D) parity bit  
  
11. A computer program that converts an entire program into machine language at one time is called a/an  
(A) interpreter (B) simulator  
(C) compiler (D) commander  
  
12. All the keys on the IBM PC key board repeat as long as we hold them down. Such type of keys are known as  
(A) typematic keys  
(B) functional keys  
(C) automatic keys  
(D) alphabetic keys  
  
13. What does the acronym ISDN stands for  
(A) Indian Standard Digital Network  
(B) Integrated Services Digital Network  
(C) Intelligent Service Digital Network  
(D) Integrated Services Data Network  
  
14. Two basic types of operating system are  
(A) sequential and direct  
(B) batch and time sharing  
(C) direct and interactive  
(D) batch and interactive  
  
15. Which of the following entity does not belong to word processing  
(A) characters (B) words  
(C) cells (D) paragraphs  
  
16. A schema describes  
(A) data elements  
(B) records and filer  
(C) record relationship  
(D) all of the above  
  
17. Which of the following is not a tool used to manage and control schedule performance  
(A) CAD (B) PERT  
(C) CPM (D) Gantt Chart  
  
18. An expert system differs from a data base program in that only an expert system  
(A) contains declarative knowledge  
(B) contains procedural knowledge  
(C) features the retrieval of stored information  
(D) experts users to draw own conclusion  
  
19. The virtual memory addressing capability of 80386 is  
(A) 4 GB (B) 16 GB  
(C) 64 GB (D) 64 TB  
  
20. The 80486 microprocessor from Intel consists of  
(A) a fast 32 bit CPU but no coprocessor  
(B) a 32 bit CPU and an 80387 coprocessor only  
(C) a 32 bit CPU, a 80387 coprocessor and memory management unit (MMU) only  
(D) a 32 bit CPU, a 80387 coprocessor, memory management unit and a cache me