

COMMON ENTRANCE EXAMINATION 1st YEAR 1st CYLCE (ENSET_BAMBILI)**Department: Electrical and Power Engineering****Session: 2014****Option: F2 (Electronic)****Duration: 3hrs****Paper (Major): Electronics****Coefficient: 4****Instructions: Choose the good answer, each question carries 1mark.**

- 1) The coefficient of coupling for two coils having $L_1=2H$, $L_2=8H$, $M=3H$
a) 0.1875 b) 0.75 c) 1.33 d) 5.333
- 2) What is one important thing transistors do?
a) Divide weak signals
b) Amplify weak signals
c) Emit light
d) Rectify line voltage
- 3) For normal operation of the transistor, the collector diode has to be
a) Forward biased b) Reverse biased c) Non conducting d) operating in the breakdown region
- 4) The ac equivalent circuit is derived from the original circuit by shorting all
a) resistors b) capacitors c) inductors d) transistors
- 5) An oscillator always needs an amplifier with
a) positive feedback b) negative feedback c) both types of feedback d) an LC tank circuit
- 6) The most widely used LC oscillator is the
a) Armstrong b) Clapp c) Colpitts d) Hartley
- 7) The output impedance of a voltage regulator is
a) Very small b) very large c) equal to load voltage divided by load current d) equal to input voltage divided by the output current
- 8) The 78C12 produces a regulated output voltage of
a) 3V b) 4V c) 12A d) 12V
- 9) In an AM receiver, the large signal input for the mixer comes from the
a) Antenna b) local oscillator c) RF stage d) last IF stage
- 10) Machine code is
a) Not a low-level language
b) Written using mnemonics
c) Any language designed for controlling machinery in industry.
- 11) The kind of noise produced inside a resistor is called
a) Field noise b) power supply ripple c) microphonics d) thermal noise
- 12) Modulation refers to a low frequency signal controlling the
a) Amplitude of the carrier b) frequency of the carrier c) phase of the carrier d) may be any of the above
- 13) The discharging time constant of a peak detector is 10ms. The lowest frequency you should use is
a) 10Hz b) 100Hz
c) 10 kHz d) 1 kHz
- 14) The op-amp integrator uses
a) Inductors b) the Miller effect c) sinusoidal inputs d) hysteresis
- 15) The DIAC is a
a) Transistor b) unidirectional device c) three layer device d) bidirectional device
- 16) A SCR is usually turned on by
a) Break over voltage b) a gate trigger c) breakdown d) holding current
- 17) The VRRM of a diode 1N4007 is
a) 400V b) 07V c) 1000V d) 47V
- 18) The value marked 224 of this ceramic capacitor is
a) 224pF b) 220 c) 220nF d) 220pF

19) BD139 is

- a) Base diode 139 b) Base signal diode c) Transistor de puissance (power transistor) d) Thyristor

20) VIH for a NAND gate means

- a) Voltage input high b) high voltage input c) voltage input home d) voltage input heat

21) An SRAM with 12 address pins and 8 data pins would have

- a) An organization of 12x8 bits
- b) Approximately 16M locations
- c) An organization of 12x8 bytes
- d) A storage capacity of 32,768 bits

22) Which one of the following is NOT essential in a microprocessor based system:

- a) An address bus b) ROM c) a clock signal d) RAM

23) A language designed to allow logical deductions to be made from input data is:

- a) C b) Latin c) Prolog d) FORTRAN

24) RISC:

- a) Means 'radical instruction set computer'
- b) Has longer instructions and is therefore slower than a CISC chip
- c) Is part of everyday life?
- d) Chips employ a smaller instruction set

25) IC 74LS90 is

- a) A logic gate b) OP-AMP c) Regulator of 90V d) BCD counter

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