

**ALL INDIA TERII SCHLORSHIP EXAM - 2013**

**SAMPLE PAPER FOR B.TECH LEET**

**Q1.** Which is not a type of follower?

- a. Knife edge follower.
- b. Pin type follower.
- c. Roller Follower.
- d. Flat faced follower.

**Q2.** Work done by a machine is 5 N-m in 4 hours, while that of B machine is 10N-m in 8 hours. Which machine will have the highest Power rating?

- a. Machine A.
- b. Machine B.
- c. Both same.
- d. None of these.

**Q3.** Increasing in temperature of gases fluid results in..... of Viscosity.

- a. Decrease.
- b. No Effect.
- c. Increase.
- d. First decrease up to a limit & then Increase.

**Q4.** Which is not a Water Tube Boiler?

- a. Babcock & Wilcox
- b. Benson
- c. Lamont
- d. Lancashire

**Q5.** If a close helical spring is subjected to load  $W$  & the deflection produced is  $x$  then stiffness of the spring is given by.

- a.  $W/2x$
- b.  $x/2W$
- c.  $x/W$
- d.  $W/x$

**Q6.** Load which is considered to act at a point.

- a. Point Load
- b. Uniformly distributed load.
- c. Uniformly varying load.
- d. Trapezoidal.

**Q7.** The angle of twist is ..... proportional to twisting moment.

- a. Inversely.
- b. Directly.
- c. No Proportionality
- d. Either a or b.

**Q8.** The properties which depend upon the size the system are known as.

- a. Intensive properties.
- b. Extensive Properties.
- c. Both a & b.
- d. None of above.

**Q9.** Pelton wheel Turbine is.

- a. Tangential flow Turbine.
- b. Mixed flow Turbine.
- c. Outward Radial flow Turbine.
- d. Inward radial flow Turbine.

**Q10.** Power available at wheels of a vehicle is .....than the Indicated Power.

- a. Less.
- b. Higher.
- c. Same.
- d. None of above.

**Q11.** Device for measuring pressure.

- a. Pressure scale.
- b. Pressure gauge.
- c. Pascal meter.
- d. Hydrometer.

**Q12.** Units of weight density is.

- a.  $\text{N/m}^3$ .
- b.  $\text{N/m}^2$ .
- c.  $\text{Kg/m}^2$ .
- d.  $\text{Kg/m}^3$ .

**Q 13.** When two or more gears are connected on same shaft the combination of gears is known as.

- a. Epicyclical gear train.
- b. Compound Gear Train.
- c. Reverted Gear Train.
- d. Simple Gear Train.

**Q14.** Outward radial type flows occur in.

- a. Reciprocating Pump.
- b. Screw pump.
- c. Centrifugal pump.
- d. Gear pump.

**Q15.** Product layout is used for.

- a. Batch production.
- b. Small production.
- c. Variation type Production.
- d. Mass Production.

**Q16.** The property by which a material undergoes permanent deformation

- a. Brittleness.
- b. Ductility.
- c. Plasticity.
- d. Hardness.

**Q17.** The property by which a material breaks without giving any indication

- a. Ductility.
- b. Plasticity.
- c. Hardness.
- d. Brittleness.

**Q18.** Process during which work is done & no heat is transferred

- a. Isothermal process.
- b. Constant pressure Process.
- c. Constant volume process.
- d. Adiabatic Process.

**Q19.** Unit of spindle speed is

- a. Rpm.
- b. m/rev.
- c. mm/rev.
- d. Km/hr.

**Q20.** Unit of Discharge is

- a.  $m^2/s$ .
- b.  $m^3/s$ .
- c.  $m^3/s^2$ .
- d.  $m^2/s^2$ .

**Q21.** Bending stresses includes

- a. Tensile
- b. compressive
- c. Both A and B
- d. shear stress

**Q22.** Following is/ are the condition for pure bending

- a. Shear force should be zero
- b. bending moment should be constant
- c. both a and b
- d. neither a nor b

**Q23.** In pure bending the material of the beam should

- a. Homogenous
- b. Perfectly elastic
- c. Isotropic
- d. All of the above

**Q24.** In simply supported beam carrying U.D.L. along the entire span tensile stress occur

- a. Above the natural axis
- b. Below the natural axis
- c. Along the natural axis
- d. Anywhere in the beam section

**Q25.** The neutral axis always passes

- a. Through the C.G of the beam section
- b. Above the C.G of the beam section
- c. Below the CG of the beam section
- d. Neutral axis has no relation with the beam section

**Q26.** In conti lever carrying a U.D.L. in its entire span, tensile stresses occur

- a. Above the neutral axis
- b. Below the neutral axis
- c. Along the neutral axis
- d. Anywhere in the beam section

**Q27.** Along the neutral axis of the beam the resultant compressive stress is

- a. equal to the resultant tensile stress
- b. Greater than the resultant tensile stress
- c. equal to bending moment at the section
- d. zero

**Q28.** The moment of resistance at any section of a beam

- a. Greater than the bending moment at the section
- b. Equal to the bending moment at the section
- c. less than the bending moment at the section
- d. None of these

- Q29.** The max size of plate for plate load test is
- 30cm<sup>2</sup>
  - 45cm<sup>2</sup>
  - 60cm<sup>2</sup>
  - 75cm<sup>2</sup>
- Q30.** Black cotton soil is suitable for foundation & becomes of its
- Black color
  - Low bearing capacity
  - cohesive particle
  - Swelling and shrinkage nature
- Q31.** Which of the following soils have least value of safe land
- sand stone
  - Lime stone
  - Moorum
  - Soft chalk
- Q32.** For  $\phi=0$  case Net value according to Terzaghi is
- 9.5
  - 5.7
  - 5.14
  - 5.52
- Q33.** The bearing capacity factor  $N_e$ ,  $N_q$  and  $N_g$  were given by
- Skempton
  - Coulomb
  - Terzaghi
  - None of these
- Q34.** Geo synthetic include
- Geo textile
  - Geo grid
  - Geo membrane
  - All of the above
- Q35.** A ware house is used to store
- Aggregate
  - Cement
  - water
  - Admixtures
- Q36.** Concrete operations involve
- Mixing
  - Transportation
  - Compaction
  - All the above

- Q37.** Steam curing is used in case of
- column only
  - Long slabs and columns
  - Mass production of pre- cast concrete
  - All the above
- Q38.** Quality control results in
- Economy
  - Less maintenance
  - Rational use of material
  - All the above
- Q39.** Mixing of ingredients can be done by
- Manually
  - Batch mixers
  - Truck mounted
  - All the above
- Q40.** For machine mixing the mixing time should not be less than
- 2 minutes
  - 3 minutes
  - 4 minutes
  - 5 minutes
- Q41.** The two windings of a transformer is
- conductively linked
  - inductively linked
  - not linked at all
  - electrically linked
- Q42.** A salient pole synchronous motor is running at no load. Its field current is switched off. The motor will
- come to stop
  - continue to run at synchronous speed
  - continue to run at a speed slightly more than the synchronous speed
  - continue to run at a speed slightly less than the synchronous speed
- Q43.** The D.C. series motor should always be started with load because
- at no load, it will rotate at dangerously high speed
  - it will fail to start
  - it will not develop high starting torque.\
  - all are true

- Q44.** The frequency of the rotor current in a 3 phase 50 Hz, 4 pole induction motor at full load speed is about
- 50 Hz.
  - 20 Hz.
  - 2 Hz.
  - Zero.
- Q45.** In a stepper motor the angular displacement
- can be precisely controlled
  - it cannot be readily interfaced with micro computer based controller
  - the angular displacement cannot be precisely controlled
  - it cannot be used for positioning of work tables and tools in NC machines.
- Q46.** The power factor of a squirrel cage induction motor is
- low at light load only
  - low at heavy load only
  - low at light and heavy load both
  - low at rated load only
- Q47.** The generation voltage is usually
- between 11 KV and 33 KV
  - between 132 KV and 400 KV.
  - between 400 KV and 700 KV.
  - None of the above.
- Q48.** When a synchronous motor is running at synchronous speed, the damper winding produces
- damping torque.
  - eddy current torque.
  - torque aiding the developed torque.
  - no torque.
- Q49.** If a transformer primary is energized from a square wave voltage source, its output voltage will be
- A square wave
  - A sine wave
  - A triangular wave.
  - A pulse wave.

**Q50.** In a d.c. series motor the electromagnetic torque developed is proportional to

- a.  $I_a$  .
- b.  $I_a^2$  .
- c.  $\frac{1}{I_a}$  .
- d.  $\frac{1}{I_a^2}$  .

**Q51.** In a 3 – phase induction motor running at slip ‘s’ the mechanical power developed in terms of air gap power  $P_g$  is

- a.  $(s-1)P_g$
- b.  $\frac{P_g}{(1-s)}$
- c.  $(1-s)P_g$
- d.  $s \cdot P_g$  .

**Q52.** In a 3 – phase induction motor the maxim torque

- a. is proportional to rotor resistance  $r_2$  .
- b. does not depend on  $r$
- c. is proportional to  $\sqrt{r_2}$
- d. is proportional to  $r \vee nr^2$  .



- Q53.** In a d.c. machine, the armature mmf is
- a. stationary w.r.t. armature.
  - b. rotating w.r.t. field.
  - c. stationary w.r.t. field.
  - d. rotating w.r.t. brushes.
- Q.54** In a transformer the voltage regulation will be zero when it operates at
- a. unity p.f.
  - b. leading p.f.
  - c. lagging p.f.
  - d. zero p.f. leading.
- Q.55** The maximum power in cylindrical and salient pole machines is obtained respectively at load angles of
- a.  $90^\circ, 90^\circ$  .
  - b.  $<90^\circ, 90^\circ$  .
  - c.  $90^\circ, >90^\circ$  .
  - d.  $90^\circ, <90^\circ$  .

- Q.56** The primary winding of a 220/6 V, 50 Hz transformer is energised from 110 V, 60 Hz supply. The secondary output voltage will be
- a. 3.6 V.
  - b. 2.5 V.
  - c. 3.0 V.
  - d. 6.0 V.
- Q.57** The emf induced in the primary of a transformer
- a. is in phase with the flux.
  - b. lags behind the flux by 90 degree.
  - c. leads the flux by 90 degree.
  - d. is in phase opposition to that of flux.
- Q.58** The relative speed between the magnetic fields of stator and rotor under steady state operation is zero for a
- a. dc machine.
  - b. 3 phase induction machine.
  - c. synchronous machine.
  - d. single phase induction machine.
- Q.59** The current from the stator of an alternator is taken out to the external load circuit through
- a. slip rings.
  - b. commutator segments.
  - c. solid connections.
  - d. carbon brushes.
- Q.60** A motor which can conveniently be operated at lagging as well as leading power factors is the
- a. squirrel cage induction motor.
  - b. wound rotor induction motor.
  - c. synchronous motor.
  - d. DC shunt motor.
- Q61.** Zener breakdown occur in semiconductors with:
- a. Lightly doped
  - b. heavily doped
  - c. in lightly doped as well as in heavily doped
  - d. none of the above
- Q62.** For frequency modulation bandwidth is:
- a. 10 khz
  - b. 200khz
  - c. 20khz
  - d. 150khz

**Q63.** FET stands for :

- a. Field Effect Transistor
- b. Forward energy translator
- c. Forward Energy Transducer
- d. none of above

**Q64.** The forbidden energy gap for Si is:

- a. 0.3 eV
- b. 0.7 eV
- c. 1.1 eV
- d. 0.5 eV

**Q65.** A 50nF capacitor in parallel with 10nF capacitor will generate:

- a. 40nF
- b. 8.33nF
- c. 0.12nF
- d. 60 nF

**Q66.** In the decimal conversion of  $(12A)_{16}$  is:

- a. 289
- b. 234
- c. 298
- d. none of the above

**Q67.** Which one of the following is not an passive device:

- a. Resistor
- b. POT
- c. FET
- d. Capacitor

**Q68.** A 10k resistor in parallel with 10k produces:

- a. 20K
- b. 15K
- c. 10k
- d. 5k

**Q69.** Which one of the following is a universal gate:

- a. NAND
- b. Ex-OR
- c. Ex-NOR
- d. NOT

- Q70.** In mobiles IMEI stands for
- International Mobile Equipment Identity
  - International Mobile Equipment Investigation
  - Indian Mobile Equipment Identity
  - none of above
- Q71.** Arrange nano(n), micro( $\mu$ ), mili(m) in ascending order
- n,  $\mu$ , m
  - n,  $\mu$ , m
  - 16 n, m,  $\mu$
  - m,  $\mu$ , n
- Q72.** A CRO is :
- Current resistor oscilloscope
  - capacitor ray oscilloscope
  - cathode ray oscilloscope
  - cathode ray oscillator
- Q73.** The minimum number of flip-flops required to construct a mod-75 counter is
- 5
  - 6
  - 7
  - 8
- Q74.** When an amplifier is provided with current series feedback, its
- Input impedance increases and output impedance decreases
  - Input and output impedance both decreases
  - Input impedance decreases and output impedance increases
  - Input and output impedance both increase
- Q75.** A differential amplifier, amplifies
- and mathematically differentiates the average of the voltages on the two input lines
  - and differentiates the input waveform on one line when the other line is grounded\
  - the difference of voltages between the two input lines
  - and differentiates the sum of the two input waveform
- Q76.** Efficiency of half wave rectifier is:
- 45%
  - 50%
  - 86%
  - 100%

**Q77.** Output resistance of ideal OP AMP is

- a. 0
- b. 1
- c. infinite
- d. very high

**Q78.** Which of the following technique is different from the others?

- a. ASK
- b. FM
- c. PSK
- d. QPSK

**Q79.** Which one of the following is fastest read/writable memory?

- a. PROM
- b. EEPROM
- c. Flash
- d. None

**Q80.** what is the value of  $A'+1$  ?

- a. A
- b. A'
- c. 1
- d. none of these

**Q81.** The Kisori Shakti Yojna was started in

- a. 2001
- b. 2002
- c. 2003
- d. 2004

**Q82.** The women commission was constituted in Haryana in:

- a. 1999
- b. 2000
- c. 2001
- d. 2002

**Q83.** Which of the following is most commonly used number system in computer

- a. Decimal
- b. Binary
- c. Octal
- d. Hexa Decimal

**Q84.** Algorithm is used:

- a. To bring itself into desire state by its own action
- b. To perform logarithmic operation
- c. To describe a set of procedures by which given result is obtained
- d. None of these

**Q85.** Which type of control unit is more costly

- a. Hardwired control unit
- b. Microprogrammed control unit
- c. can't say
- d. None of these

**Q87.** Which of the following has highest priority

- a. TRAP
- b. RST 7-5
- c. RST 6.5
- d. RST 5.5

**Q88.** An I/O bound program may have :

- a. Long CPU burst
- b. Long I/O burst
- c. short CPU burst
- d. Short I/O burst

**Q88.** Arguments in C program are also called:

- a. Parameters
- b. Expressions
- c. Comments
- d. None

**Q89.** A float is made of

- a. 1 byte
- b. 2 byte
- c. 4 byte
- d. 8 byte

**Q90.** which of the following is the main component of computer network

- a. protocol
- b. Operating system
- c. communication channel
- d. All of these

**Q91.** Ice is slippery when man walks over it because

- Its surface is smooth
- There is no friction
- It is very chill
- None of these

**Q92.** The break efficiency of a new bike is about:

- 30%
- 50%
- 80%
- 100%

**Q93.** Cotton Plant is cultivated in

- cold and dry climate
- Hot & warm climate
- wet climate
- none

**Q94.** Night blindness is caused by deficiency of:-

- vitamin-A
- Vitamin-D
- Vitamin- C
- vitamin-E

**Q95.** Deficiency of vitamin D gives:

- Rickets
- Night blindness
- Xerosis
- Loss of appetite

**Q96.** Dry storage is often used for

- Meat & fish
- Fruits & vegetables
- None perishable food such as wheat
- Milk products

**Q97.** Elora caves are ..... in number:

- 30
- 24
- 34
- 6

- Q98.** The religious place Kashi is situated near river.....
- a. Ganga
  - b. Yamuna
  - c. Kaveri
  - d. Satluj
- Q99.** Patliputra was the capital of.....
- a. Magadh
  - b. Aryans
  - c. Indus Vadey
  - d. Buddhists
- Q100.** Residential places of Buddhist priests were known as
- a. Chaitya
  - b. Viharas
  - c. Gumphas
  - d. Vihars or Gumphas
- Q101.** I hate sitting ..... him as he always smells of garlic.
- a. besides
  - b. among
  - c. at
  - d. beside
- Q102.** His conduct is bad, and his honesty is not..... Suspicion
- a. above
  - b. beyond
  - c. under
  - d. in
- Q103.** He is a very careful person, he never take sides but remains
- a. impartial
  - b. unbiased
  - c. neutral
  - d. prejudiced
- Q104.** .....of any kind is demoralizing.
- a. addiction
  - b. habit
  - c. custom
  - d. tradition



**Q105.** The sun is shining brightly, please ..... the light

- a. put off
- b. put out
- c. take off
- d. put on

**Q106.** Bhava , an eminent scientist died..... An accident

- a. of
- b. from
- c. with
- d. in

**Q107.** The car broke..... suddenly

- a. of
- b. off
- c. down
- d. out

**Q108.** The government is seized..... this problem

- a. with
- b. in
- c. of
- d. from

**Q109.** .....the rain stopped, the play has to be suspended

- a. while
- b. until
- c. when
- d. since

**Q110.** The general said that the position must be .....at all cost

- a. arrested
- b. caught
- c. captured
- d. possessed

**Q111.** ALU is

- a. Arithmetic Logic Unit
- b. Array Logic Unit
- c. Application Logic Unit
- d. None of a

**Q112.** The brain of any computer system is

- a. ALU
- b. Memory
- c. CPU
- d. Control Unit

**Q113.** The binary system uses powers of

- a. 2
- b. 10
- c. 8
- d. 16

**Q114.** A computer program that converts assembly language to machine language is

- a. Compiler
- b. Interpreter
- c. Assembler
- d. Comparator

**Q115.** Which computer has been designed to be as compact as possible?

- a. Mini
- b. Super computer
- c. Micro computer
- d. Mainframe

**Q116.** ASCII stands for

- a. American standard code for information interchange
- b. All purpose scientific code for information interchange
- c. American security code for information interchange
- d. American Scientific code for information interchange

**Q117.** WAN stands for

- a. Wap Area Network
- b. Wide Area Network
- c. Wide Array Net
- d. Wireless Area Network

**Q118.** The computer size was very large in

- a. Second Generation
- b. First Generation
- c. Third Generation
- d. Fourth Generation

**Q119.** Which of the following is a Storage Device?

- a. Tape
- b. Hard Disk
- c. Floppy Disk
- d. All the above

**Q120.** A byte represents a group of?

- a. 16 bits
- b. 24 bits
- c. 8 bits
- d. 2 bits