

TATA STEEL JET EXAMINATION ELECTRONICS SAMPLE PAPER (Sample 50 questions)

A. DOMAIN

1. Energy meter belongs to
(A) absolute instrument (B) indicating instrument
(C) recording instrument (D) integrating instrument
2. Silicon transistors are preferred to Germanium transistors because
(A) they are inexpensive
(B) they have high breakdown voltage
(C) they have low leakage current
(D) they withstand large power dissipation
3. Two capacitors of 10 mF each, are connected in series. The total capacitance in this case is equal to
(A) 10 mF (B) 20 mF (C) 5 mF (D) 40 mF
4. Which of the following meters indicated average value ?
(A) Moving coil meter (B) Moving iron meter
(C) Thermocouple meter (D) None of these
5. Hertz is the unit for
(A) Capacitance (B) inductance (C) wave length (D) frequency
6. Thermal resistance of a transistor is measured as
(A) degree centigrade per watt (B) watts per degree centigrade
(C) ohm per watt (D) degree centigrade per ohm
7. The number of stable states for a flip –flop is
(A) 0 (B) 1 (C) 2 (D) 3
8. A large number of free electrons exists in
(A) Semi – conductors (B) metals
(C) insulators (D) None of these
9. An ideal voltage source has _____ internal resistance
(A) Zero (B) large (C) infinite (D) None of these
10. An ideal source consists 5V in series with 10 K Ω resistance. The current magnitude of equivalent current source is
(A) 2 mA (B) 305 mA (C) 0.5 mA (D) None of these
11. Two wires A and B have the same cross section and are made of the same material
 $R_A = 600\Omega$ and $R_B = 100\Omega$. The number of times A is longer than B is
(A) 6 (B) 2 (C) 4 (D) None of these

12. You have to replace a 1500Ω resistor in a ratio. you have no 1500Ω resistor but have several 1000Ω . Which one you would connect ?
(A) Three in parallel (B) Two in parallel and one in series
(C) Two in parallel (D) None of these
13. Which of the following statement is TRUE both for a series and a parallel dc circuit ?
(A) Voltage are additive (B) Currents are additive
(C) Powers are additive (D) None of these
14. Kirchhoffs voltage law is concerned with
(A) I R drops (B) battery e.m.fs
(C) Both (A) and (B) (D) None of these
15. The algebraic sign of a IR drop is primarily dependent upon the
(A) battery connection (B) direction of current flow
(C) Value of R (D) None of these
16. The nodal analysis is primarily based on the application of
(A) Ohm's law (B) KCL
(C) Both (A) and (B) (D) None of these
17. Pot-core inductors are suitable as
(A) RFCC (B) AFCS
(C) Filter chokes (D) None of these
18. A battery is a
(A) d.c. voltage source (B) a.c. voltage source
(C) Constant current Source (D) None of these
19. An ideal current source is one whose internal resistance is
(A) high (B) low (C) Zero (D) None of these
20. When the load resistance is equal to the source resistance of the source its efficiency will be
(A) 100 % (B) 75 % (C) 50 % (D) None of these
21. A crystal diode has
(A) one p-n junction (B) two p-n junctions
(C) three p-n junctions (D) None of these
22. A reverse current in a diode is of the order of
(A) KA (B) mA (C) PA (D) None of these
23. Three identical cascaded stages have an overall upper 3db frequency of 20 KHz and a lower 3 db frequency of 20 Hz. What are the upper and lower 3 db frequency of each stage? Assume non-interacting stages
(A) 15 Hz, 40 KHz (B) 10.2 Hz, 39.4 KHz
(C) 8.2 Hz, 36.5 KHz (D) 5.6 Hz, 47.2 KHz

24. Pen recorders compared to a cathode ray oscilloscope offer
- (A) better frequency
 - (B) low cut frequency
 - (C) frequency response of the same order
 - (D) suitability for D.C. Only

25. Temperature coefficient of zener diode
- (A) is always positive
 - (B) is always negative
 - (C) is Zero
 - (D) depends upon the voltage of the Zener

B. GENERAL APTITUDE

26. If 42 persons consume 144 kg of rice in 45 days; then in how many days will 30 persons consume 48 kg of rice?

- (A) 6 days. (B) 7 days. (C) 8 days (D) 12 days:

27. The area of a circle is 24.64 m^2 . The circumference of the circle is:

- (A) 14.64 m (B) 16.36m (C) 17.60.m (D) 18.40 m

28. A certain number of tennis balls were purchased for Rs: 450: Five more balls could have been purchased in the same amount if each ball was cheaper by Rs. 45. The number of balls purchased were:

- (A) 10 (B) 15 (C) 20 (D) 25

29. Which National Highway connects Delhi and Mumbai? -

- (A) NH6 (B). NH 8 (C) NH10 (D) NH 12,

30. A two-digit number is 7 times the sum of its digits. The number formed by reversing its digits is 18 less than the original number. What is the number?

- (A) 42 (B) 52 (C) 62 (D) 72

C. ENGLISH

31. It was _____ hot that day and the cable suffered the brunt of the heat, AW
- (A) treacherously (B) acceptably. (C). unfailingly (D). unbelievably -

32. _____ my knowledge, Mr. Akash has a prejudice _____ foreigners.

- (A) in..... for (B) as..... towards. (C) for at (D) to..... against

Direction for questions 33-34:

In the following questions, you will find sentences part of which is bold.

Compare the bold part of each sentence with the expressions (A), (B) and (C) given below:
Choose the expression which is an improvement upon the bold part. If none of the three expressions improve the sentence, then your answer is (D).

Questions:

33. It is high time she. **changes** her job.

- (A) must change (C) had changed
(B) changed (D) No improvement

34. I am surprised that **he dares speak** in such a tone to his father.

- (C) he dares to speak (C) he dare to speak
(D) he dare speak (D) No improvement

35. Choose the word which is **nearest in** meaning to the 'bold typed word. He could rise to this stature because of **his invincible** 'courage.

- (A) inviolable (B) unmanageable
(C) unbeatable (D) immeasurable

D. CURRENT INDUSTRY TRENDS

36. What is the full-form of AI in field of technology?

- A. Artificial Information
B. Artificial Intelligence
C. Additional Intelligence
D. Augmented Intelligence

37. TPM concept was first initiated by

- A. Suzuki
B. Nippon Densco
C. TOYOTA
D. Ford Automobiles

38. Full form of TOC is

- A. Theory of Constraints
B. Tata Overseas Company
C. Theory of Change
D. Theory of Commitment

39. The purpose of CPR in Industry Safety is to:

- (A) Maintain oxygenated blood circulation
(B) Stabilize body temperature to avoid hypothermia
(C) Build upper body strength
(D) Dislodge blood clots within the victim's lungs

40. A confined space is deemed ready for employee entry when:

- (A) A company safety inspector has certified it
- (B) The unit operations foreman declares it ready
- (C) An engineer has completed the necessary calculations
- (D) Your supervisor assigns you to the job

E. INDUSTRIAL ORIENTED LEARNING

41. Which of the following is/are the Start-up OBs?

- (A) OB100
- (B) OB101
- (C) OB102
- (D) All of these

42. Default speed of PROFIBUS network is:

- (A) 1.5 Mbps
- (B) 1 Mbps
- (C) 256 Kbps
- (D) 512 Kbps

43. In PLC, Program is executed in

- (A) CPU Module
- (B) I/P Module
- (C) Base Plate
- (D) Power Supply

44. What is the full form of IGBT

- (A) Integrated Gate Bijunction Thyristor
- (B) Internal gate back threshold
- (C) Insulated Gate Bipolar Transistor
- (D) Integrated gate bipolar Transistor

45. Meaning of PWM is

- (A) Pulse wave modulation
- (B) Pulse Width Modulation
- (C) Paper wound media
- (D) Phase width modulation

46. A free wheeling diode:

- (A) prevents negative output (load) voltage
- (B) improves efficiency by transferring stored energy in L to load R
- (C) improves load current waveform, hence better load performance
- (D) All of the above

47. SCRs are used in series to meet

- (A) high current demand.
- (B) low voltage demand.

- (C) low current demand.
- (D) high voltage demand.

48. Which software is used to write a program in Siemens PLC?

- (A) RS logix
- (B) Simatic Manager
- (C) Control Builder
- (D) PL7

49. A thyristor has the following terminals

- (A) Anode, Base , Collector
- (B) Anode, Gate, Cathode
- (C) Emitter, Gate, Cathode
- (D) Anode, Emitter, Collector

50. A reactor is essential in

- (A) circulating current type dual converter
- (B) non-circulating current type dual converter
- (C) Both A & B
- (D) None of these