COCHIN SHIPYARD LIMITED
(A Govt. of India Enterprise)
KOCHI -15

PHASE - I
OBJECTIVE TYPE TEST FOR THE POST OF
EXECUTIVE TRAINEE (ELECTRONICS) FOR CSL

29 December 2025

DURATION OF THE TEST : 60 Minutes
MAXIMUM MARKS : 60 Marks

DO NOT OPEN THIS QUESTION PAPER-CUM-ANSWER BOOKLET UNTIL ASKED TO DO SO

GENERAL INSTRUCTIONS

1. **ANSWER ALL QUESTIONS**. There shall be no negative marks.
2. **Answers are to be marked using ✓ mark against the most appropriate option among the options provided in the Question Booklet using BALL POINT PEN**.
3. Rough work, if any, is to be done on space provided in the Question Booklet only. No separate sheet will be provided for rough work.
4. **Calculators, Mobile, Electronic items etc., are not permitted inside the examination hall.**
5. Candidates seeking, receiving and /or giving assistance during the test will be disqualified.
6. The right to exclude any question (s) from final evaluation rests with CSL.
7. Do not seek any clarification on any item in the Question Booklet. Use your judgment.

✂----------✂----------✂

Please fill in the following details using ball point pen.

Name of Candidate	
Registration No.	
Name of Post	
Signature of candidate	
Signature of invigilator	

THIS QUESTION PAPER-CUM-ANSWER BOOKLET SHOULD BE HANDED OVER TO THE INVIGILATOR ON COMPLETION OF THE TEST

PHASE - I

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PART A

1. What is the name of India's first defence electric vehicle developed by Pravaig Dynamics?

   a) VEER

   b) VAJRA

   c) AGNI

   d) RAKSHAK

2. Where is the tri service exercise 'poorvi prachand prahar' being conducted?

   a) Assam

   b) Arunachal Pradesh

   c) Manipur

   d) West Bengal

3. What is modelled after Bodhi Dharma a 5th – 6th century Indian monk from Kanchipuram revered as the founder of Zen Buddhism in China and Japan? This was gifted to the honorable prime minister during his official visit to Japan (August 29-30) by the chief priest of Shorinzan temple in Taka Saki.

   a) Kakeshi Dolls

   b) Daruma Dolls

   c) Gosho Dolls

   d) Bunraku

4. Which institution has launched the "Scheme for Facilitating Accelerated Payout of Inoperative Accounts and Unclaimed Deposits?

    a) Securities and Exchange Board of India (SEBI)

    b) Reserve Bank of India (RBI)

    c) Insurance Regulatory and Development Authority of India (IRDAI)

    d) Ministry of Finance (MoF)

5. With which Country has India approved the 69 Km long Kokrajhar-Gelephu rail line, a cross border Special Railway Project?

    a) Bhutan

    b) Nepal

    c) Myanmar

    d) Bangladesh

6. Choose the appropriate synonym for given word FUMBLING.

    a) Clever

    b) Cunning

    c) Awkward

    d) Graceful

7. Choose the appropriate option to fill in the blanks.

    By the time I arrived they _____dinner.

    a) have had

    b) had had

    c) have been having

    d) had been having

8. Choose the best substitute for the highlighted phrase in the given sentence.

   We have bought a new machine for our mother to help her in household chores, the machine **can easily be carried anywhere**.

   a) Potable
   b) Relatable
   c) Cartable
   d) Portable

9. Choose the option which is similar to the relation:-

   Room:House

   a) Bedroom:Kitchen
   b) Cabin:Ship
   c) Chair:Room
   d) Sitting Room:Drawing Room

10. Choose the appropriate option to fill in the blanks.

    Despite the _____ incident, the role of the Indian peacekeepers has been lauded.

    a) Brisk
    b) Untoward
    c) Falling Out
    d) Smug

11. The difference between a two digit number and the number obtained by interchanging the positions of its digits is 36. What is the difference between the two digits of that number?

    a) 3

    b) 4

    c) 5

    d) 9

12. If the circumference of a circle is increased by 50%, then its area will be increased by .....

    a) 50%

    b) 100%

    c) 125%

    d) 225%

13. Raju & Tom together can do a work in 10 days. Tom & Appu together can do it in 12 days. Appu & Raju together can do it in 15 days. In how many days will they finish it if all the three work together?

    a) 8 days

    b) 4 days

    c) 4.5 days

    d) 9.5 days

14. The average age of 36 students in a group is 14 years. When teacher's age is included to it, the average increases by one. What is the teachers age in years?

a) 36

b) 51

c) 31

d) None of the above

15. The cost of a machine is Rs.9000. If the cost decline is 10% of the cost at the beginning of each year, then what will be the cost of the machine three years later?

a) Rs. 6561

b) Rs. 6300

c) Rs. 6501

d) Rs. 6462

16. Which two signs need to be interchanged to make the equation 24 - 8 ÷ 4 + 5 × 3= 14 correct?

a) ÷ and ×

b) × and –

c) + and ÷

d) ÷ and -

17. A man is facing West. He turns 90 degree to his right and then another 180 degree. Which direction is he facing now?

a) East

b) North

c) South

d) West

18. Pointing to a boy in the photograph, Monika said, "His sister is the only daughter of my father". How is the boy related to Monika's father?

a) Nephew

b) Son in law

c) Son

d) Brother

19. Find out the word that cannot be formed using the letters of the given word: CORRIGENDUM

a) GENDER

b) DANGER

c) MURDER

d) ERROR

20. If Lead is Stick, Stick is Nib, Nib is Needle, Needle is Rope, Rope is Thread - what will be fitted in a pen to write with it?

a) Stick

b) Lead

c) Needle

d) Nib

PART B

21. Direction flag (in a microprocessor) is used with ……

a) String instructions

b) Stack instructions

c) Arithmetic instructions

d) Branch instructions

22. When an amplifier is provided with current series feedback, its .....

a) input impedance increases and output impedance decreases

b) input impedance decreases and output impedance increases

c) input and output impedance decrease

d) input and output impedance increase

23. In a Buck converter, output voltage is .....

a) Always greater than input

b) Always less than input

c) Equal to input

d) Zero

24. Which of the following material is considered most suitable for RTDs used in laboratory and why?

a) Copper, because it has low resistance

b) Platinum, because it has high accuracy, high temperature range and available in pure form

c) Mercury, because it is liquid at room temperature

d) Nickel, because it has highest accuracy and highest operating temperature range

25. The noise figure of a cascaded system is given by .....

a) Friis Formula

b) Shannon Formula

c) Carson's Rule

d) Nyquist Theorem

26. What will be the effect on diffusion resistance, if the collector current is increased in hybrid-π equivalent circuit of BJT?

a) It will remain same

b) It will increase

c) It will decrease

d) It will first increase then decrease

27. Which of the following oscillators is suitable for frequencies in the range of mega hertz?

a) RC phase shift

b) Wien bridge

c) Hartley

d) Both (a) and (c)

28. In a single-phase full-bridge controlled rectifier with resistive load, the average output voltage is maximum when the firing angle α is …….

a) 0°

b) 45°

c) 90°

d) 180°

29. Which factor determines the range resolution of a radar?

a) Size of the Antenna

b) Band width of the transmitted pulse

c) Power radiated from the antenna

d) Center frequency of the radar

30. Which of the following is TRUE about a communication system?

(A) Increasing the rate of message transmission increases the distortion or error

(B) Increasing the rate of message transmission decreases the distortion or error

(C) A noiseless channel is both lossless and deterministic

(D) A noiseless channel is lossless but not deterministic

a) Both (A) and (D)

b) Both (B) and (C)

c) Both (A) and (C)

d) Only (A)

31. Parity bits are used for the purpose of ---------- in digital systems.

a) Error detection

b) Symmetry generation

c) Diagnostic monitoring

d) Time-stamping data

32. Which of the following statement is not true for 555 timer?

a) It is linear integrated circuit

b) It operates on supply voltage in free-running mode

c) It has adjustable duty cycle

d) It has high current output

33. Diffusion current in silicon depends on ……..

a) the electric field

b) external voltage

c) carrier concentration gradient

d) both the carrier concentration gradient and external voltage

34. A linear Hamming code is used to map 4-bit messages to 7-bit codewords. The encoder mapping is linear. If the message 0001 is mapped to the codeword 0000111, and the message 0011 is mapped to the codeword 1100110, then the message 0010 is mapped to .....

a) 10011

b) 1100001

c) 1111000

d) 1111111

35. The trigonometric Fourier series of an even function does not have the .....

a) dc terms

b) cosine terms

c) sine terms

d) odd harmonic terms

36. Consider a system with input x(t) and output y(t)=x(e^t). The system is .....

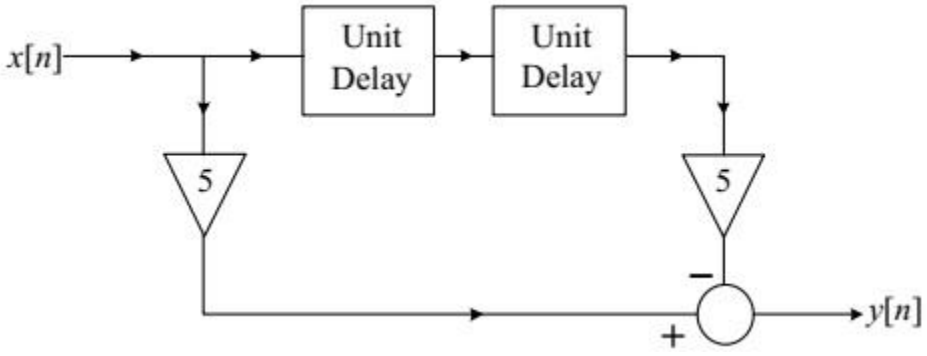
a) Causal and time invariant

b) Non-causal and time varying

c) Causal and time varying

d) Non-causal and time invariant

37. The direct form structure of an FIR (Finite Impulse Response) filter is shown in the figure. The filter can be used to approximate a .....



a) low-pass filter

b) high-pass filter

c) band-pass filter

d) band-stop filter

38. In the design of a single mode step index optical fibre close to upper cut-off, the single-mode operation is not preserved if .....

a) radius as well as operating wavelength are halved

b) radius as well as operating wavelength are doubled

c) radius is halved and operating wavelength is doubled

d) radius is doubled and operating wavelength is halved

39. If a right-handed circularly polarized wave is incident normally on a plane perfect conductor, then the reflected wave will be .....

a) right-handed circularly polarized

b) left-handed circularly polarized

c) elliptically polarized with a tilt angle of 45 deg

d) horizontally polarized

40. The effect of current shunt feedback in an amplifier is to ……..

a) increase the input resistance and decrease the output resistance

b) increases both input and output resistance

c) decrease both input and output resistance

d) decrease the input resistance and increase the output resistance

41. The minimum number of 2-input NAND gates required to implement a 2-input XOR gate is …….

a) 4

b) 5

c) 6

d) 7

42. The 2's complement representation of -17 is …….

a) 101110

b) 101111

c) 111110

d) 110001

43. The following FIVE instructions were executed on an 8085 microprocessor.

MVI A, 33H

MVI B, 78H

ADD B

CMA

ANI 32H

The Accumulator value immediately after the execution of the fifth instruction is …

a) 00H

b) 10H

c) 11H

d) 32H

44. The difference between the analog signal and the closest available digital value at each sampling instant from the A/D converter is called the …….

a) quantization error

b) resolution error

c) nyquist error

d) sampling error

45. What do you call the characteristic of a magnetic material whereby a change in magnetization lags the application of a magnetizing force?

a) Hysteresis

b) Induction

c) Retentivity

d) Reluctance

46. In a class B push-pull amplifier, the transistors are biased slightly above cutoff to avoid ……..

a) crossover distortion

b) unusually high efficiency

c) negative feedback

d) a low input impedance

47. Tropospheric scatter is used with frequencies in the ……

a) HF

b) VHF

c) UHF

d) VLF

48. The Schmitt trigger is a two-state device that is used for …….

a) pulse shaping

b) peak detection

c) input noise rejection

d) filtering

49. A 3 - bit analog-to-digital converter is designed to digitize analog signals ranging from 0V to 10V. For this converter, the binary output corresponding to an input of 6 V is …….

a) 11

b) 101

c) 100

d) 10

50. A phosphorous doped silicon semiconductor (doping density: 1017/cm^3) is heated from 100 deg C to 200 deg C. Which one of the following statements is CORRECT?

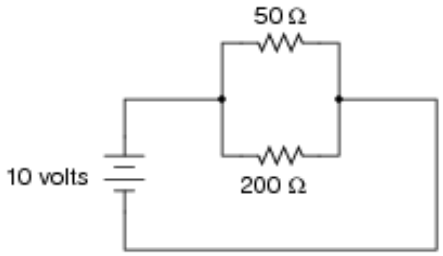
a) Position of Fermi level moves towards conduction band

b) Position of dopant level moves towards conduction band

c) Position of Fermi level moves towards middle of energy gap

d) Position of dopant level moves towards middle of energy gap

51. What are the respective currents in 50 Ω resistor & 200 Ω resistor?



a) 50 mA & 200 mA

b) 200 mA & 50 mA

c) 50 mA & 50 mA

d) 200 mA & 200 mA

52. A Full adder logic circuit will have .....

a) Two inputs and one output

b) Three inputs and three outputs

c) Two inputs and two outputs

d) Three inputs and two outputs

53. What is the primary advantage of a switch-mode power supply (SMPS) over a linear power supply?

a) Lower cost

b) Simpler design

c) Better voltage regulation

d) Higher efficiency

54. For a base current of 10 µA, what is the value of collector current in CE configuration if $\beta_{dc} = 100$

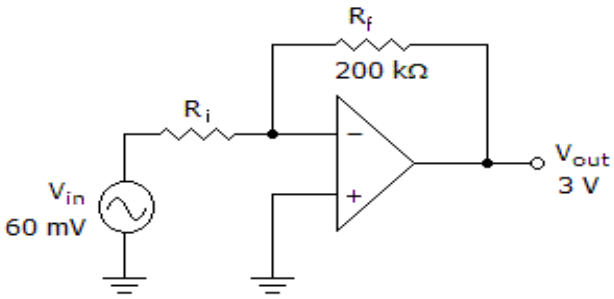
a) 10 µA

b) 100 µA

c) 10 mA

d) 1 mA

55. What is the value of R_i in the given circuit to produce the given output voltage?



a) 50 kohm

b) 4 kohm

c) 5 kohm

d) 10 kohm

56. In a transistor amplifier, what is the role of the coupling capacitor?

a) To block DC signals and pass AC signals

b) To amplify the input signal

c) To provide negative feedback

d) To provide positive feedback

57. Which among the below stated components are preferred for elimination of ground and supply line noise especially in TTL/CMOS circuit based PCB designs?

a) Resistor

b) Snubber

c) Decoupling Capacitor

d) All of the above

58. Fourier analysis indicate that a square wave can be represented as .....

a) A fundamental sine wave and odd harmonics

b) A fundamental sine wave and even harmonics

c) Sum of two sine waves only

d) None of the above

59. When the modulating signal controls the frequency of the carrier, we get .....

a) Phase modulation

b) Amplitude modulation

c) Frequency modulation

d) None of the above

60. The actual cost of PCB can be evaluated on the basis of …….

a) PCB size & material

b) Number of layers

c) Vias on PCB

d) All of the above

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