



NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, Goa – 403401

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**QUESTION PAPER FOR
WRITTEN TEST FOR RECRUITMENT OF ASSISTANT REGISTRAR**

Instructions:

1. Time: 1 hr 30 minutes
2. Part A, B, C consist of General English, Reasoning, General knowledge(30 Questions)
3. Part D consist of 60 marks

PART A

1	Look at this series: 7, 10, 8, 11, 9, 12,... What number should come next? a) 7 b) 10 c) 12 d) 13	()
2	Look at this series: 42 40 38 35 33 31 28 choose which pair of numbers comes next. a) 25 22 b) 26 23 c) 26 24 d) 25 23	()
3	Window is to pane as book is to a) novel b) glass c) cover d) page	()
4	Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. The marks obtained by them are: a) 39, 30 b) 41, 32 c) 42, 33 d) 43, 34	()
5	Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A: B. a) 2:3 b) 1:1 c) 3:4 d) 4:3	()
6	Find x 1,7, 13,19,x (a) 29 (b) 25 (c) 35 (d) 22	()
7	Which of the following is a prime number? (a) 61 (b) 24 (c) 27 (d) 35	()

8	How many times between 4 p.m and 10 p.m are the two hands of the clock in right angles? (a) 14 (b) 11 (c) 12 (d) 8	()
9	How much milk is needed to distribute to 50 people so that everyone gets 250ml of milk? (a) 11.5 litre (b) 12.25 litre (c) 10.5 litre (d) 12.5 litre	()
10	Arrange the following in alphabetical order: Advertise, Autograph, Address, Apple, Aptitude (a) acdeb (b) cadeb (c) caedb (d) acedb	()

Part B

1	The Western Ghats in Maharashtra is known as? a) Nilgiris b) Cardamom Hills c) Annamalai d) Sahyadris	()
2	Which city is known as the 'Manchester of South India'? a) Coimbatore b) Madurai c) Bangalore d) Chennai	()
3	Which Indian state has most airports? a) Kerala b) Gujarat c) Maharashtra d) Uttar Pradesh	()
4	Mother Theresa is a nobel laurete famous for her charity work. Which was her country of birth? a) USA b) England c) Albania d) Serbia	()
5	Who is the founder of Advaita philosophy? a) Basaveshwara b) Swami Vivekananda c) Adi Shankaracharya d) Sri Ramanujacharya	()
6	'www', a common term related to internet stands for ----- -----	()
7	Currency of China? (a) Yen (b) Yuan (c) Youn (d) Yan	()
8	Which is the largest continent in the world in terms of area? (a) Africa (b) Asia (c) Australia (d) South America	()
9	Which among the following movies is India's official entry for next year's Oscar award (a) Cocktail (b) Barfi (c) Paheli (d) Guru	()
10	What is the capital of Assam (a) Aizawl (b) Guwahati (c) Dispur (d) Agartala	()

Part - C

1	Thrashing (Choose correct synonym) a) Garbage b) Beating c) Shouting d) Warning	()
2	Dejected (Choose correct antonym)	()

	a) Happy c) Slowly	b) Hurried d) Angrily	
3	Optimist (Choose correct antonym) (A) Chief (C) Pessimist	(B) Idealist (D) realist	()
Directions for Q.No 4-5 Which of the phrases (a), (b), (c) and (d) given below should replace the phrase given in bold in the following sentence to make the sentence grammatically meaningful and correct?			
4	They are yet to decided about buying the new furniture. a) Still-decide c) Yet to decide	b) Yet to decision d) Still decided	()
5	He had to bear the burnt of his father's mistakes. a) Bear the burnt c) Bear a burns	b) Bear the burns d) Bear and burn	()
6	Vanished (Choose correct synonym) a) Gone missing c) Was left behind	b) was found d) All the above	()
7-9 Each sentence below has two blanks, each blank indicating that something has been omitted. Choose the set of words for each blank which best fits the meaning of the sentence as a whole.			
7	The man____down the road is my teacher (A) Hurried (C) Hurrying	(B) Hurry (C) To hurry	()
8	I am very ____ to meet you (A) Delighting (C) Delight	(B) Delighted (C) To delight	()
9	He has many good friends, but____are good ones (A) few (C) a few	(B) little (C) less	()
10	Enery that is produced commercially from coal is called; (A)Light enrgy (B) Kinetic energy (C) Thermal energy (D) Potential energy		

PART D

(All questions carry 2 marks each)

1. Which one of the below is not compensatory allowance?

- a) Hard area allowance\
- b) Special Compensatory (hill area) allowance
- c) Special duty allowance
- d) Flood allowance

2. Which one of the below is interest bearing advance?

- a) Advance for the purchase of personal computer
 - b) Advance pay on transfer
 - c) Advance in connection with medical treatment
 - d) Advance for the purchase of warm clothing
3. Which one of the below is not eligible for festival advance?
- a) Non-gazetted employees whose grade pay does not exceed Rs 4800/-
 - b) Officials on EL/maternity leave
 - c) Staff in industrial establishment and work charged staff entitled for pension or cpf
 - d) Officials under suspension
4. Which one of the following act, conduct and commission of a Government servant amount to misconduct;
- a) Maintain absolute integrity at all times
 - b) Do not undertake private consultancy work
 - c) Habitual late attendance
 - d) Availing Extra Ordinary Leave
5. Which of the following activities require prior permission / sanction of the prescribed authority is necessary;
- a) To participate in flag day collections on a voluntary basis
 - b) To become member of Samyuktha Sadhachar Samithi
 - c) To undertake honourary work at a social or charitable nature
 - d) To accept remuneration for services rendered regularly to cooperative society.
6. Accounting is;
- a) An art
 - b) A Science
 - c) A profession
 - d) All of the above
7. Outstanding wages is ;
- a) Normal Account
 - b) Real Account
 - c) Personal Account
 - d) Current account
8. Shares can be issued;

- a) At par
- b) At discount
- c) At premium
- d) All of the above

9. Management Planning process begins with

- a) Programme
- b) Goals and objectives
- c) Procedure
- d) Policies

10. Under which rule of GFR, the Ministry of Finance consolidates the budgets received from various Ministries / Department in to one for the whole Central Government and the Minister for Finance presents the budget to Parliament :-

- a) Rules 43, 44, 45 and 46 of GFR
- b) Rules 39, 40, 41 and 42 of GFR
- c) Rules 47, 48, 49 and 50 of GFR
- d) Rules 35, 36, 37 and 38 of GFR

11. The deputation (Duty) Allowance granted to a Government servant is treated as;

- a) Special pay
- b) Overtime allowance
- c) Personal pay
- d) Leave salary contribution

12. The Principal Bench of Central Administrative Tribunal is at;

- a) Allahabad
- b) New Delhi
- c) Mumbai
- d) Chennai

13. Whether unavailed Joining time can be credited to the Earned Leave account of the concerned employee?

- a) No
- b) Rule does not permit
- c) At the discretion of the Head of Department
- d) Yes.

14. In case of transfer of the Government servant within the same station how much joining time is admissible;
- a) 2 days
 - b) 3 days
 - c) One day
 - d) 4 days
15. Child Care leave may be granted to women employees by an authority for a maximum period of;
- a) 730 days
 - b) 740 days
 - c) 760 days
 - d) 750 dys
16. An officer serving outside his/her regular cadre (deputation / training etc) should be considered for promotion, when due in his / her cadre. This is termed as;
- a) Adhoc Promotion
 - b) Pro-forma promotion
 - c) Regular Promotion
 - d) Special promotion
17. Which benefits payable in the first instance in case of missing employees;
- a) Full pension
 - b) All pensionary benefits
 - c) Only gratuity
 - d) Salary due, leave encashment dues and the amount of GPF
18. As detailed in FR 9 (21) (a) (i) including DP and NPA means;
- a) Average emoluments
 - b) Salary payable
 - c) Emoluments
 - d) TDS
19. Invalid pension can be granted to;
- a) A Government servant who is declared by the appropriate medical authority to be permanently incapacitated for further service
 - b) Who, on being declared surplus, opts for voluntary retirement under rule 29 of CCS (Pension) Rules
 - c) On attaining the age of superannuation
 - d) Who compulsorily retired.

20. Under which rule 'disciplinary authority can involve any of the penalties specified thereof;

- a) Under Rule 11 of CCS (CCA) Rules, 1965
- b) Under Rule 12 of CCS (CCA) Rules, 1965
- c) Under Rule 12 (2) of CCS (CCA) Rules, 1965
- d) Under Rule 10 of CCS (CCA) Rules, 1965

PART E

The following questions carry 4 marks each

- 1. Write short notes on Memorandum of Charges
- 2. Describe procedure to be followed for imposing minor penalties
- 3. Status of Qualified faculty in engineering & Technological Institutions in India
- 4. Reservation Policy of the Government of India
- 5. Unemployment in India



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NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, GOA - 403 401

Technical Assistant (Dept. of ECE) Written/Skill Test, 18th July 2021

Time: 10:00 AM to 11:00 AM (1 Hr)

Max. Marks - 30

Candidate Name: _____

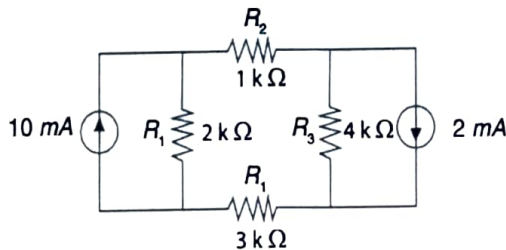
Roll No.: _____

Important Instructions

1. MCQs (Part-A) are to be answered in the **OMR Sheet Only**
2. Descriptive answers (Part-B) are to be written in the space provided in the question paper.
3. There is negative marking for wrong answers in MCQs in 1:1 ratio. i.e., -1 Mark for each wrong answer.

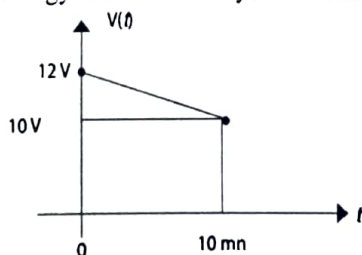
PART – A: Multiple Choice Questions (20 Qns – 1 Mark each)

1. An ideal op-amp is an ideal
 - (a) Voltage controlled current source
 - (b) Voltage controlled voltage source
 - (c) Current controlled current source
 - (d) Current controlled voltage source
2. The magnitude of current (in mA) through the resistor R_2 in the figure shown is?



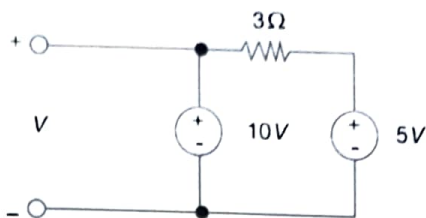
- (A) 1.2A (B) 1.5A (C) 2.8A (D) 3.6 A

3. A fully charged mobile phone with a 12 V battery is good for a 10 minute talk-time. Assume that, during the talk-time the battery delivers a constant current of 2 A and its voltage drops linearly from 12 V to 10 V as shown in the figure. How much energy does the battery deliver during this talk-time?



- (A) 220 J (B) 12 kJ (C) 13.2 kJ (D) 14.4 J

4. The voltage V in the figure is



- (A) 10 V (B) 15 V (C) 5 V (D) None of the these

5. A DC voltage source is connected across a series R-L-Circuit. Under steady-state conditions, the applied DC voltage drops entirely across the
 (a) R only (b) L only (c) C only (d) R and L combination

6. Superposition theorem is NOT applicable to networks containing
 (a) non-linear elements (b) dependent voltage sources
 (c) Dependent current sources (d) transformers

7. The dc current through each diode in a bridge rectifier equals:
 A. the load current B. half the dc load current
 C. twice the dc load current D. one-fourth the dc load current

8. A system with an input $x(t)$ and output $y(t)$ is described by the relation: $y(t) = T \times (t)$. This system is?
 (a) linear and time invariant (b) linear and time varying
 (c) non-linear and time invariant (d) non-linear and time varying

9. If the characteristic equation of a closed-loop system is $s^2 + 2s + 2 = 0$, then the system is
 (a) overdamped (b) critically damped (c) underdamped (d) undamped

10. The Boolean function $Y = AB + CD$ is to be realized using only 2-input NAND gates. The minimum number of gates required is
 (a) 2 (b) 3 (c) 4 (d) 5

11. The output of the logic gate shown below in figure is



- (a) 0 (b) 1 (c) A (d) A

12. The noise margin of an TTL gate is about
 (a) 0.2 V (b) 0.4 V (c) 0.6 V (d) 0.8 V

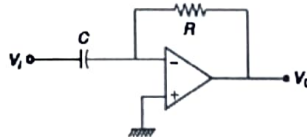
13. A Zener diode, when used in voltage stabilization circuits, is biased in
 (a) reverse bias region below the breakdown voltage (b) reverse breakdown region
 (c) forward bias region (d) forward bias constant current mode

14. A voltage amplifier has a voltage gain of 10^4 . The input and output impedance of the amplifier are R_i and R_o respectively. The amplifier drives a load resistance R_L and is driven by a voltage source v_s having series resistance R_s . What is the overall voltage gain (v_o/v_s) of the amplifier if $R_i=R_s$ and $R_o=R_L$?

- (A) 10^2 (B) 2 (C) 0.5×10^4 (D) 0.25×10^4 .

15. A 741 op-amp has a gain-bandwidth product of 1 MHz. A non-inverting amplifier using this op-amp having a voltage gain of 20 dB will exhibit a -3 dB bandwidth of
(a) 50 kHz (b) 100 kHz (c) 1000 kHz (d) $1000/7.07$ kHz

16. Assume that the op-amp of the figure is ideal. If V_i is a triangular wave, then V_o will be



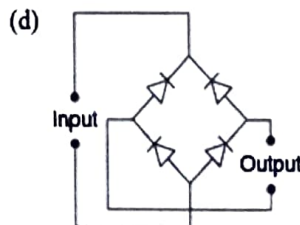
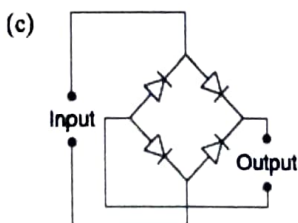
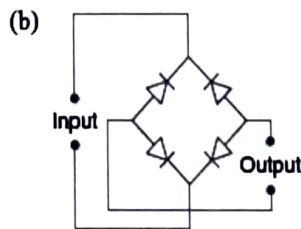
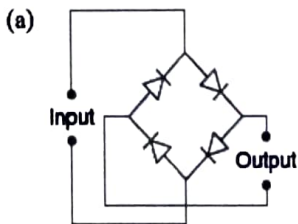
- (a) square wave (b) triangular wave (c) parabolic wave (d) sine wave

17. One input terminal of high gain comparator circuit is connected to ground and a sinusoidal voltage is applied to the other input. The output of comparator will be
(a) a sinusoid (b) a full rectified sinusoid
(c) a half rectified sinusoid (d) a square wave

18. In a microprocessor system, the stack is used for:

- (a) storing the program return address whenever a subroutine jump instruction is executed
(b) transmitting and receiving input-output data.
(c) storing all important CPU register contents whenever an interrupt is to be serviced.
(d) storing program instructions for interrupt service routines.

19. The correct full wave rectifier circuit is



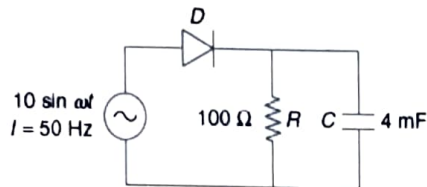
20. A capacitor has 25 V across its plates and a stored charge of $1500 \mu\text{C}$. What is the capacitance value?

- A. 60 pF B. $60 \mu\text{F}$ C. 16.67 mF D. 37.5 mF

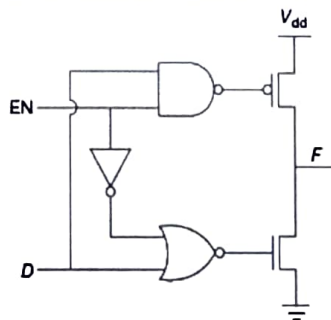
PART – B: Descriptive Questions (5 Qns – 2 Marks each)

(Answer in the space provided below the question)

1. The figure shows a half-wave rectifier. The diode D is ideal. Determine the average steady-state current (in amperes) through the diode?



2. In the circuit shown, what are the values of F for $EN = 0$ and $EN = 1$, respectively?



3. The number of product terms in the minimized sum of-product expression obtained through the following K-map is (where 'd' denotes don't care states) and SoP expression ?

1	0	0	1
0	d	0	0
0	0	d	1
1	0	0	1

4. Given that for a logic family, VOH is the minimum output high-level voltage, VOL is the maximum output-low-level voltage, VIH is the minimum acceptable input high-level voltage and VIL is the maximum acceptable input low-level voltage. The correct relationship as per their magnitude in decreasing order is

5. For the 8085 assembly language program given below, what is the content of the accumulator after the execution of the program?

300	MVIA, 45
3002	MOV B, A
3003	STC
3004	CMC
3005	RAR
3006	XRA B



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Technical Assistant (medical Unit) Written/Skill Test, 19th July 2021

Time: 10:00 AM to 11:00 AM (1 Hr)

Max. Marks - 30

Candidate Name:

Roll No.:

Important Instructions

1. MCQs (Part-A) are to be answered in the **OMR Sheet Only**
2. Descriptive answers (Part-B) are to be written in the space provided in the question paper.
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PART – A: Multiple Choice Questions (20 Qns – 1 Mark each)

1. We should travel _____ night, as it will be cooler.
A. in B. at C. with D. by
2. It is dangerous to enter _____ the enemy's camp.
A. in B. on C. by D. into
3. Complete the sentence with sequence of words given jumbled below :
Reading books
(P) is a habit
(Q) but also enlarges the mind
(R) because it not only increases knowledge
(S) which must be cultivated by everybody
A. PQSR B. SRPQ C. PSRQ D. PQRS
4. Complete the paragraph by filling the appropriate missing line given below.

Recently India celebrated its 60th year of independence - momentous journey in realizing its constitutional goals and democratic aspirations. _____. Urgent steps are needed to establish a rule of law society in India, without which our fundamental credentials as a democracy, will be seriously undermined.

(A) While the strength of Indian democracy has withstood the last six decades of social, economic and political developments, there are numerous challenges to democratic governance.

(B) The rule of law is still not sufficiently established in the Indian society.

(C) Since independence, various attempts to enforce and institutionalize the rule of law in the Indian society have not achieved the intended results.

A. Only A B. A and B C. Only B D. Only C

5. Find the one which does not belong to that group ?
 A. India : Rupee B. America : Dollar C. Quwait : Dinar D. Australia : Pound
6. Find the one which does not belong to that group ?
 A. Regiment B. Lieutenant C. Brigadiar D. Major
7. International Yoga day is celebrated on
 A. 21st January B. 12th June C. 21st June D. 12th January
8. Which team has won COPA America football championship 2021 and who scored the winning goal?
 A. Brazil & Lionel Messi B. Argentina & Lionel Messi
 C. Argentina & Angel Di Maria D. Italy & Angel Di Maria
9. World Red Cross Day falls on
 A. 8 May B. 12th June C. 21st June D. 12th January
10. To whom the visitor is referred to in NIT System Act and Statutes?
 A. Prime Minister B. Home Minister C. President D. Director
11. How many compressions and breaths should you do for each cycle of CPR
 A. 15 compressions two breaths
 B. 30compressions 5 breaths
 C. 30 compressions Two breath
 D. 15 compressions 5 breaths
12. The temperature of water for tepid sponge
 A. 65-85°F
 B. b. 85-100°F
 C. c.100-105°F
 D. d.105-110°F
13. Inability of the eyes to Move together in coordinated Manner
 A. Diplopia
 B. Styne
 C. Nystagmus
 D. Strabismus
14. The position used to treat shock and decreased blood pressure is
 A. Lithotomy position
 B. Lateral position
 C. Dorsal recumbent position
 D. Trendelenburg position

15. Which of the following is a fundamental symptom of schizophrenia
- A. Ambivalence
 - B. Delusion
 - C. Hallucination
 - D. Mannerism
16. Which of the following is used for assessing the pain in children
- A. Brief pain inventory
 - B. Numerical rating scale
 - C. Visual analogue scale
 - D. Wong baker Faces pain rating scale
17. Parkinson's disease is caused by
- A. Hereditary factors
 - B. Death of brain cells due to old age
 - C. Impairment of dopamine producing cells in the brain
 - D. Demyelination of the nerve cells
18. A patient is to receive 3000 ml of 0.9% NaCl IV in 24 hours. The intravenous set delivers 15 drops per milliliter. The nurse should regulate the flow rate so that the patient receives how many drops of fluid per minute?
- A. 15 drops/minute
 - B. 31 drops /minute
 - C. 45 drops /minute
 - D. 60 drops/minute
19. The assessment of quality of nursing care of use of a record as an aid in evaluating the quality of patient care
- A. Nursing audit
 - B. Nursing evaluation
 - C. Supervision
 - D. Guidance
20. In most situations, a molecular test is used to detect SARS-CoV-2 and confirm infection. PCR is the most commonly used molecular test. What is the full form of PCR ?
- A. Polymerase Chain Reaction
 - B. Polymerase Change Reaction
 - C. Poly Chain Reaction
 - D. Polymerase Charge Read

PART – B: Descriptive Questions (Total 10 Marks, 5 questions 2 marks each)

1. Mention any four the Types of immunoglobulins

2. List down different nursing theories

3. List out the basic symptoms of Covid 19 and what are its precautionary measures?



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Technical Assistant (Dept. of CSE) Written/Skill Test, 18th July 2021

Time: 10:00 AM to 11:00 AM (1 Hr)

Max. Marks - 30

Candidate Name:

Roll No.:

Important Instructions

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PART – A: Multiple Choice Questions (20 Qns – 1 Mark each)

1. To make the shell script readable, writable, and executable only by the owner you would set the permission of the file to:
 - a. 700
 - b. 300
 - c. 070
 - d. 003
2. Which among the following is 8-bit unsigned representation for 298?
 - a. 11111101
 - b. 11111110
 - c. 11111111
 - d. None of the above
3. 8-bit two's-complement representation of +12 is
 - a. 11110100
 - b. 11110011
 - c. 00001100
 - d. 10001100
4. Which among the following is a correct memory hierarchy?
 - a. Magnetic disk, SRAM
 - b. Cache, DRAM, magnetic disk
 - c. DRAM, cache and magnetic disk
 - d. DRAM, main memory, cache, magnetic disk
5. What does a routing algorithm perform?
 - a. Decides if incoming packet should be further corrected for transmission error
 - b. Adds checksum bits to packets
 - c. Encrypts the packets
 - d. Decides the output line on which the incoming packet should be transmitted

6. The internet layer of TCP/IP model is similar to _____ layer of OSI reference model
 - a. Transport layer
 - b. Session layer
 - c. Presentation layer
 - d. Network layer

7. Seven layers of OSI reference model is based on which of the following principles?
 - a. A layer should be created where a different level of abstraction is needed
 - b. Each layer should perform a well defined function
 - c. The layer boundaries should be chosen to minimize the information flow across the interfaces
 - d. All the above

8. Which among the following is the corresponding IEEE standard for bluetooth?
 - a. IEEE 802.3
 - b. IEEE 802.11
 - c. IEEE 802.15
 - d. IEEE 802.18

9. A firewall is installed at the point where the secure internal network and untrusted external network meet which is also known as _____
 - a. Chock point
 - b. Meeting point
 - c. Firewall point
 - d. Secure point

10. Which of the following XML documents are well formed?

<ol style="list-style-type: none"> a. <firstElement> NIT Goa <secondElement> CSE </secondElement> </firstElement> b. <firstElement> NIT Goa </firstElement> CSE <secondElement> </secondElement> 	<ol style="list-style-type: none"> c. <firstElement> NIT Goa <secondElement> CSE </firstElement> </secondElement> d. </firstElement> NIT Goa </secondElement> CSE <secondElement> <firstElement>
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11. In the following anchor tag <A HREF=<http://www.nitgoa.ac.in>> NITGoa which one is attribute?
 - a. A
 - b. HREF
 - c. NITGoa
 - d. http

12. How many times will “NITG” be printed in the following C Program?

```
#include<stdio.h>
int main()
{
    int x;
    for(x=-1; x<=20; x++)
    {
        if(x < 10)
            continue;
        else
            break;
        printf("NITG");
    }
    return 0;
}
```

- a. 0
- b. 20
- c. 21
- d. 10

13. What is the output of the following code?

```
Main()
{
    Char fname [ ] ="TIME 4 EDUCATION";
    Time4(fname);
}
Time4(char fname[5])
{
    fname+=7;
    printf("%s", fname);
    fname-=5;
    printf(" %s", fname);
}
```

- a. 4 EDUCATION
- b. EDUCATION
- c. TIME 4 EDUCATION
- d. EDUCATION ME 4 EDUCATION

14. CISC stands for

- a. Complex Information Sensed CPU
- b. Complex Instruction Set Computer
- c. Complex Intelligence Sensed CPU
- d. Complex Instruction Set CPU

15. Cache memory enhances

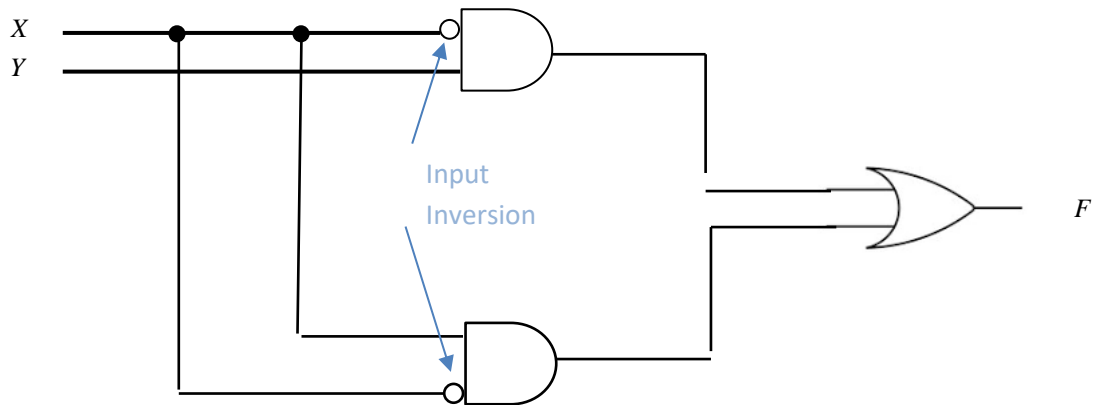
- a. Memory capacity
- b. Memory access time
- c. Secondary storage capacity
- d. Secondary storage access time

16. What command is used to determine the connection path between host and remote server?
- PING
 - Netstat
 - IPCONFIG
 - TRACERT (Traceroute)
17. Which among the following is/are true about CPU and GPU?
- GPU and CPU are architecturally very different devices having separate memory spaces
 - CPU is designed for running a small number of potentially quite complex tasks
 - GPU is designed for running a large number of quite simple task
 - All the above
18. Among the following, which one is not the right operation on a stack?
- Remove the item that is inserted latest into the stack
 - Add an item to the stack
 - Remove the first item that is inserted into the stack, without deleting other elements
 - None of the above
19. The five elements P, Q, R, S, T are pushed in a stack, one after another starting from P. (Initially stack is empty). The stack is popped four times, and each element is inserted in a queue. The two elements are deleted from the queue and pushed back on the stack. Now one item is popped from the stack. The popped item is _____
- P
 - Q
 - R
 - S
20. Select the statement which best completes the sentence : “Abstract data type is
- a data type which is abstract in nature
 - a kind of data type
 - data structure
 - a mathematical model together with a set of operations defined on it

PART – B: Descriptive Questions (5 Qns – 2 Marks each)

(Answer in the space provided below the question)

1. What do you mean by truth table? Produce the truth table for the following digital circuit. What function does the circuit represent?



Answer:

2. In the prevailing pandemic situation, students are not present in the campus. The computers in the lab are kept idle. What is your plan to ensure the well being computers in your laboratory? (Give technical answer)

Answer:

3. What is the significance of an IP Address? What is the difference between IPV4 and IPv6? Why is it said that IPV6 will never run out of IP addresses?

Answer:

4. Imagine the following scenario. You are entrusted with the task of maintaining the Institute website. On a fine morning you receive a complaint that the Institute website is not working. How do you troubleshoot the problem to find and resolve the cause of website being down? (Give technical answer)

Answer:

5. What will the output of the following C language program? Give reason for the output obtained.

```
#include<stdio.h>
int main()
{
    int i;
    i=1;
    while(i>3)
    {
        printf("1\t");
        printf("%d\t",i);
        i++;
    }
    printf("2");
    return 0;
}
```

Answer:



राष्ट्रीय प्रौद्योगिकी संस्थान गोवा
NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, GOA - 403 401.

Superintendent, Written/Skill Test, 17th July 2021

Time: 10:00 AM to 11:00 AM

Max. Marks - 30

Candidate Name:

Roll No.:

Important Instructions

1. MCQs (Part-A) are to be answered in the **OMR Sheet Only**
2. Descriptive answers (Part-B) are to be written in the space provided in the question paper.
3. There is negative marking for wrong answers in MCQs in 1:1 ratio. i.e., -1Mark for each wrong answer.

PART – A: Multiple Choice Questions (20 Qns – 1 Mark each)

1. 40% of a number is more than 20% of 650 by 190. Find the number?
A. 600 B. 700 C. 800 D. 900
2. What is the maximum days of Child Care leave can be availed by a Govt. Employee as per CCS Govt. of India rule.
A. 730 Days B. 530 Days C. 600 Days D. 500 Days
3. LTC shall be admissible by government employee as per CCS Govt. of India rule after completion of how many years of minimum service?
A. 2 Year B. 3 Year C. 1 Year E. 6 Month
4. What is the Percentage of EMD fee put for Tender? .
A. 2-5 % B. 5-10% C. 10-15% E. 15-20%
5. What is the validity of the Performance Security?.
A. For 1 Year B. Warranty Period
C. Up to 6 month after warranty expires D. 2 Year
6. What is the name of the Government of India portal for procurement of Goods/Service online for the government purchase?
A. Amazon B. GEM C. NIC D. MoE
7. What is the minimum number of members of equal rank necessary for the purchase of an equipment/goods/service based on market survey in centralized purchase committee as per GFR.
A. 2 members B. 3 members C. 4 members D. 5 members

8. All limited/ open Tender inquiries should be published in which portal?
A. CPPP B. NIC C. News Paper D. PFMS
9. What is the maximum limit for the Direct Purchase of Goods/Services value without quotation as per GFR 2019?
A. Rs.15000 B. Rs.25000 C. Rs.30000 D. Rs.40000
10. What is the minimum qualifying service for annual increment for central government employee?
A. 1 Year B. 8 Month C. 6 Month D. 9 Month
11. With respect to suspended employee which statement is true
a) He is eligible LTC/LTA for self and not eligible for dependent family members
b) He is not eligible LTC/LTA for self and not eligible for dependent family members
c) He is eligible LTC/LTA for self and eligible for dependent family members
d) He is not eligible LTC/LTA for self and eligible for dependent family members
A. a and c B. b and c C. a D. d
12. What is the Full form of portal CPPP?
A. Central Public Prosecution Panel
B. Central Panel for Prosecution Public
C. Central Public Procurement Portal
D. Central Procurement Portal of Public
13. Which year the gazette notification for the NIT Act is passed?
A. 2010 B. 2006 C. 2007 D. 2017
14. What was the increased contribution of NPS by the Central Government and which year it was implemented?
A. 10 %-, 01/04/2019 B. 12%, 01/12/2019
C. 14%, 01/04/2019 D. 14%, 01/01/2019
15. When there is no public transport available, what is the maximum limit of distance in Km's reimbursable to a Government servant for a particular stretch of journey during LTC covered by private/personal transport based on his self-certification?
A. 500km B. 200km C. 100km D. Not Allowed
16. Calculate the contribution of Government NPS for the salary with the Basic of Rs.10000, DA-50%, HRA-10000 ?
A. Rs.4200 B. 3600 C. 2100 D. 2800

17. What is full form of SAR & IR with reference to the CAG Audit conducted for the CFTI's, Govt. of India?
- Special Audit Report & Independent Report
 - Separate Audit Report & Independent Report
 - Special Audit Report & Inspection Report
 - Separate Audit Report & Inspection Report
18. Which committee look after the matter related to Construction & Repairing works in NIT's system?
- BCW
 - BWC
 - BMC
 - BWM
19. Rebate u/s 87A is available only if the income doesn't exceed .?
- Rs. 100000
 - Rs. 250000
 - Rs.350000
 - Rs. 500000
20. What is the percentage of liquidity damage imposed in the event of non-supply of goods/services on time in Purchase Order as per the GFR?
- 1 % PM
 - 1 % PW
 - 0.5% PM
 - 0.5% PW

PART – B: Descriptive Questions (Total 10 Marks)

1. Calculate Gross Salary from the data given below (3 Marks)

Basic Pay	:	Rs.20,000/- PM.
DA is	:	10%
HRA is	:	20%
Pay level- 1 as per 7 th CPC		
Govt NPS	:	10% (Govt. contribution)
Self NPS is	:	10% (Own Contribution)

The Answer is

Gross Salary	Amount
Basic Pay Rs.	
DA Rs.	
HRA Rs.	
Transport Allw. Rs	
Govt. NPS Rs.	
Gross Salary Rs.	

2. Calculate WDV of Fixed Assets as on 01.04.2021

(2 Marks)

Equipment purchased on 01.05.2018 @ Rs.1,50,000
 Transport charges during installation @ Rs.20,000
 Installation Charges @ Rs.30,000
 Depreciation Percentage @ 10% WDV method

The WDV as on 01.04.2021 is Rs. _____

Details	Amount
Equipment Value as on 01.05.2018	
Depreciation as on 31.03.2019	
Depreciation as on 31.03.2020	
Depreciation as on 31.03.2021	
WDV as on 01.04.2021 is Rs	

3. Calculate Minimum & Maximum Amount of EMD & Performance Security from following given details. (3 Marks)

1. A firm ABC has invited Tender for purchase of Equipment on 01.01.2020
2. Estimated Tender Value of Equipment Rs.12,00,000
3. XYZ Ltd. Bidder Quoted the value of Equipment of Rs.10,00,000
4. XYZ Ltd. Bidder has lowest value among all the bidders and won the Tender on 20.01.2020.
5. XYZ Ltd. is a MSME Registration Holder.

From the above calculate followings for XYZ Ltd.

Details	Minimum Rs.	Maximum Rs
EMD Rs.	Rs. _____	Rs. _____
Performance Security	Rs. _____	Rs. _____

What is the percentage of quoted rate:

4. Calculate Special LTC Cash Package Eligible Amount from the following given details.
(2 Marks)

Basic Salary : Rs.50,000
DA : Rs.10,000
Dependent Family Members : 5
Pay Level-06, GP-4200
No. of EL Encashment : 10 EL

Answer:

<u>Details</u>	<u>Amount in Rs.</u>
Deemed Fare Amount for Special LTC Cash	
EL Encashment Amount for Special LTC Cash	
Total Amount Eligible for Special LTC Cash Package	



NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, Goa – 403401

**QUESTION PAPER FOR
WRITTEN TEST FOR RECRUITMENT TO THE POST OF
SUPERINTENDENT/ACCOUNTANT**

- Note :**
1. There are two parts in this paper. All questions given in each part are to be answered in the booklet only.
 2. Total marks for this paper: 100 marks, (25 marks for Part A and 90 marks for Part B).
 3. Maximum time allowed: 1 hour 30 minutes

PART A

1. Study the following information carefully and answer the given questions?

- A. Identify missing number at the end of the series
662, 645, 624, 599, ?

- 1) 587 2) 566 3) 589 4) 570

- B. Identify missing number with in the series
98, 94, ?, 70, 38

- 1) 89 2) 85 3) 86 4) 87

2. Study the following information carefully and answer the given questions?

C D E % 2 4 # A B © L M N \$ 3 6 7 P Q I & © Z Y ∞ 8 F G H 9 β

- a) How many such consonants are there in the above arrangement each of which is immediately preceded by a vowel and immediately followed by a number?

- (1) None (2) One (3) Two (4) Three (5) None of these

- b) How many such vowels are there in the above arrangement each of which is immediately preceded by a consonant and immediately followed by a symbol?

- (1) None (2) Four (3) Three . (4)Two (5) None of these

- c) If all the numbers are deleted from the above arrangement then which of the following symbol/letter will be eighteenth from the right side?
- (1) M (2) L (3) N (4) \$ (5) None of these
- d) Which of the following element is eleventh to the left to the eight from the right?
- (1) \$ (2) 6 (3) 3 (4) N (5) None of these

3. Read the paragraph and answer the following questions

Paragraph 1

Less than a month-and-a-half after the murder of 19-year-old Aman, comes the news of the death of Shanno, 11, a class II student of a Municipal Corporation of Delhi (MCD)-run Girls' Primary School. Shanno was allegedly made to squat with bricks on shoulders under the blazing sun for two hours because she could not spell words in English. According to her medical report, Shanno died due to "prolonged standing". Though the two deaths---Aman's and Shanno's ---took place under different circumstances (one due to ragging and the other due to corporal punishment), these incidents prove that court orders and sensitisation programmes alone are not enough to curb such heinous crimes. In fact, on March 19, a teacher, again at an MCD school, beat up 10 students with a nail-riddled cane. The Delhi High Court banned corporal punishment in 2001.

Q. a. How did Shanno die?

Q. b. What was Shanno's fault?

Q. c. What happened on March, 19 at an MCD-run school?

Q. d. How did Aman die?

Q. e. What is corporal punishment?

4. Choose the word which is most nearly the **OPPOSITE** in meaning as the word printed in bold
- a) **Excellent**
- (1) Marvelous (2) Varied (3) Undistinguished (4) Conspicuous (5) Conclusive
5. Which of the following is the name of annual military exercise between the navy of India and the United States?
- (1) MALABAR (2) VARUNA (3) SIMBEX (4) FRIENDSHIP (5) None of these
8. Which athlete is known as the Flying Sikh?
- 1) Milkha Singh 2) Yuvaraj Singh 3) Bhuta Singh 4) Balvinder Singh

9. A person seeking election to the office of the President of India must have completed the age of
 1) 35 years 2) 40 years 3) 45 years 4) 30 years

PART B

1. Explain the provisions of Accounting Standard No. 12 as per ICAI? Explain the applicability of the same for Non- Profit Organisations?
(5 marks)
2. Prepare the Income & Expenditure and Balance Sheet as on 31.3.2012 for M/s.Rajnish Research Institute (Registered as Society under the Societies Act) with the help of the following information :-
(35 Marks)

PARTICULARS	Debit	Credit
Capital Fund-Corpus Fund		220,717,691
Liability		
Capital Reserve		36,930,040
Current Liabilities		
Duties & Taxes		3,861
Provisions		2,502,900
CSIR-Contingency		8,219
CSIR – Salary		31,200
EP-Thakur Vaidhyanatha and Aaiyar & Co.		35,000
EP-University of Agricultural Sciences		250,000
Revenue Grant From GOI		28,000,000
SD - Veda Prakash Electricals		12,533
Fixed Assets		
Capital Work In Progress-Building	40,021,090	
Capital Work in Progress-Others	6,954,867	
Computer Equipment	690,755	
Furniture & Fixtures	441,423	
Laboratory Equipment	106,444,824	
Office Equipment	1,116,384	
Investments		
Short Term Fixed Deposit	27,000,000	
Current Assets		
Deposits (Asset)	1,220,000	
Loans & Advances (Asset)	47,652,733	
Cash-in-hand	9,244	
Bank Accounts	111,728,689	
Interest Accrued on Fixed Deposit	831,591	
TDS on Interest on Fixed Deposit	177,808	

PARTICULARS	Debit	Credit
Direct Expenses		
Bank Charges	15,259	
Computer Consumable	39,784	
Consultancy	347,571	
Electrical Maintainance	950,898	
Honorarium-Visiting Fellows	95,468	
Laboratory Expenses	162,762	
Salary	8,814,434	
Salary-Fellowship	1,773,142	
Travel Expenses	4,450,845	
Indirect Incomes		
Interest on Investment		6,370,801
Revenue Grant Received From GOI		123,783,000
Sale of Tender Forms		2,260
Indirect Expenses		
Advertisement Expenses	52,142	
Audit Fees	38,605	
Canteen Expenses	10,278	
Communication Expenses	145,232	
Contingency Expenses	6,617,409	
Group Gratuity	214,168	
Group Leave Encashment	93,028	
Interiors & Furnishing	1,943,833	
Laboratory Consumables	40,588,258	
Maintainence Charges	4,091	
Meeting & Workshops	4,438,383	
NetWorking	2,625	
Office Expenses	1,750	
Other Maint Expenses	2,157,675	
Printing & Stationery	19,351	
Rent	1,266,355	
Security Charges	114,752	
Total	418,647,505	418,647,505

4. Explain the provisions of Section 80C of Income Tax Act 1956 towards deduction from Gross Total Income?
(5 Marks)

5. Calculate the Net Salary of Mr. Santosh for the month of October 2012 with the help of following information:-

(10 Marks)

Sl No	Particulars	Value
1	Date of joining	05/04/2011
2	Pay (Pay in pay band- 18750 + Grade Pay 6600)	Rs. 25350/-
3	Dearness Allowance	72%
4	House Rent Allowance	20%
5	Transport Allowance	Rs. 1600
6	NPS Contribution	10 % of (Basic + DA)
7	Profession Tax Slab	Upto 10000 = Exempt 10000-20000 = 200 > 20000 = 500
8	TDS	Rs. 1200/-
9	Home Loan Recovery	Rs. 2480/-

6. Calculate the Income Tax liability of the employee for the full year (2012-13) from the particulars given against question No.5 and also from the following additional information:

(5 marks)

- He is paying LIC premium amounting to Rs. 6750/- per year.
- The total amount of HBA repayment during the year 2012-13 is Rs. 29760/- out of which Rs. 21860/- is towards interest and balance towards principal.
- He has received interest amounting to Rs. 6540/- during the year on his SB Accounts.

7. What is depreciation? What are the different methods of calculating depreciation? Explain the merits and demerits of each?

(5 Marks)

8. Prepare a Bank Reconciliation Statement with the following data

(10 marks)

Sl No	Information	Value
1	Book Balance	Rs. 17,56,265/-
2	Cheque No. 125652 dated 11/10/2012 not encashed	Rs. 10,560/-
3	Cheque No. 025625 dated 22/10/2012 not credited	Rs. 1,25,655/-
4	Debit on 15/10/2012 towards stationery charges	Rs. 2,450/-
5	Transposition Error on 25/12/2012	Rs. 25,652/-
6	RTGS inward remittance on 16/10/2012	Rs. 1,45,600/-
7	NEFT Charges for various remittances	Rs. 65/-
8	Cheque No. 125678 dated 21/10/2012 not encashed	Rs. 1,40,255/-
9	ECS on 12/10/2012	Rs. 4,408/-
10	ECS on 16/10/2012	Rs. 4,504/-
11	Bank Balance	Rs. 19,15,571/-

9. Give Short Answers (NOT MORE THAN TWO SENTENCES)

(10 marks)

Explain

1. Asset
2. Liability
3. Balance Sheet
4. Income & Expenditure Account
5. Statement of Receipts & Payments

10. Multiple Choice Questions (10 marks) – write the correct answer against the question number is your answer sheet.

1. RTGS is an abbreviation for

- | | | | |
|---|---|---|-----------------|
| (a) <i>Real Time
Gross Settlement</i> | (b) <i>Right Time
General
Statement</i> | (c) <i>Real Time
General
Settlement</i> | (d) <i>None</i> |
|---|---|---|-----------------|

2. Accounting Standard 6 deals with

- | | | | |
|-------------------------|---|---|-----------------|
| (a) <i>Depreciation</i> | (b) <i>Merger &
Acquisition</i> | (c) <i>Accounting
for Government
Grants</i> | (d) <i>None</i> |
|-------------------------|---|---|-----------------|

3. Tally Accounting Software can be used for

- | | | | |
|-------------------------------------|---|---|-----------------|
| (a) <i>Financial
Accounting</i> | (b) <i>Financial and
Inventory Accounting</i> | (c) <i>Neither Financial
nor Inventory
Accounting</i> | (d) <i>None</i> |
|-------------------------------------|---|---|-----------------|

4. Utilisation Certificate for Grants should be prepared in

- | | | | |
|--------------------------|--------------------------|------------------------|-----------------|
| (a) <i>Form GFR 19 A</i> | (b) <i>Form GFR 19 B</i> | (c) <i>Form GFR 19</i> | (d) <i>None</i> |
|--------------------------|--------------------------|------------------------|-----------------|

5. Interest Accrued means

- | | | | |
|---|---|---|-----------------|
| (a) <i>Interest earned and
credited</i> | (b) <i>Interest earned and
not credited</i> | (c) <i>Interest not earned
but credited</i> | (d) <i>None</i> |
|---|---|---|-----------------|

6. Financial Accounting Statements and Management Accounting Statements should be compulsorily prepared by any entity that has a legal standing

- | | | | |
|-----------------|------------------|---------------------------------|-----------------|
| (a) <i>True</i> | (b) <i>False</i> | (c) <i>either true or false</i> | (d) <i>None</i> |
|-----------------|------------------|---------------------------------|-----------------|

7. Time value of money is

- | | | | |
|-----------------------------------|------------------------------|--|-----------------|
| (a) <i>Accounting
Concept</i> | (b) <i>Financial Concept</i> | (c) <i>Management
Accounting Concept</i> | (d) <i>None</i> |
|-----------------------------------|------------------------------|--|-----------------|

8. Cost Centres used in tally is similar to

- (a) *General Ledger* (b) *Sub Ledger* (c) *Sales Ledger* (d) *None*

9. Tally accounting software can be used in

- (a) *Companies* (b) *Non Profit Organisations* (c) *Small Businesses* (d) *All*

10. Service tax is leviable on

- (a) *All Goods* (b) *All Services* (c) *All Services except negative list* (d) *None*

-◆-



NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, Goa – 403401

**QUESTION PAPER FOR
WRITTEN TEST FOR RECRUITMENT OF STENOGRAPHER/PA**

- Note :**
1. There are Two parts in this paper. All questions given in each part are to be answered in the booklet only.
 2. Total marks for this paper : 100 marks (25 marks for Part A and 75 marks for Part B).
 3. Maximum time allowed : **1 hour 30 minutes**

(All questions In Part A carries one mark each)

PART A

1. Study the following information carefully and answer the given questions?

A. Identify missing number at the end of the series
662, 645, 624, 599, ?

- 1) 587 2) 566 3) 589 4) 570

B. Identify missing number with in the
series 98, 94, ?, 70, 38

- 1) 89 2) 85 3) 86 4) 87

2. Study the following information carefully and answer the given questions?

C D E % 2 4 # A B © L M N \$ 3 6 7 P Q I & © Z Y ∞ 8 F G H 9 β

- a) How many such consonants are there in the above arrangement each of which is immediately preceded by a vowel and immediately followed by a number?

- (1) None (2) One (3) Two (4) Three (5) None of these

- b) How many such vowels are there in the above arrangement each of which is immediately preceded by a consonant and immediately followed by a symbol?

- (1) None (2) Four (3) Three . (4)Two (5) None of these

- c) If all the numbers are deleted from the above arrangement then which of the following symbol/letter will be eighteenth from the right side?
- (1) M (2) L (3) N (4) \$ (5) None of these
- d) Which of the following element is eleventh to the left to the eight from the right?
- (1)\$. ' (2)6 " (3) 3' (4) N (5) None of these

3. Read the paragraph and answer the following questions

Paragraph 1

Less than a month-and-a-half after the murder of 19-year-old Aman, comes the news of the death of Shanno, 11, a class II student of a Municipal Corporation of Delhi (MCD)-run Girls' Primary School. Shanno was allegedly made to squat with bricks on shoulders under the blazing sun for two hours because she could not spell words in English. According to her medical report, Shanno died due to "prolonged standing". Though the two deaths---Aman's and Shanno's ---took place under different circumstances (one due to ragging and the other due to corporal punishment), these incidents prove that court orders and sensitisation programmes alone are not enough to curb such heinous crimes. In fact, on March 19, a teacher, again at an MCD school, beat up 10 students with a nail-riddled cane. The Delhi High Court banned corporal punishment in 2001.

- Q. a. How did Shanno die?
 Q. b. What was Shanno's fault?
 Q. c. What happened on March, 19 at an MCD-run school?
 Q. d. How did Aman die?
 Q. e. What is corporal punishment?

Paragraph 2

Rehana, an eight-year old girl, can ask for alms in English, French and Spanish. She has never been to a regular school, but she is preparing for the Commonwealth Games. The games are a landmark event on the calendars of beggars in Delhi. Preparations go on, in full swing, to make the most of the inflow of international tourists.

Veteran beggar Raju runs a grooming school, where he shares his knowledge and tips to improve begging skills with a select group of 45 children. Neelam is the head trainer in this school, where classes are held three nights a week---out in the open.

Q.a. What is so special about Rehana?

Q.b. What does Raju do?

Q.c. Who is Neelam?

Q.d. What is the meaning of the expression, “make the most of”?

Q.e. What do you understand by “Grooming School”?

4. Choose the word which is most nearly the **OPPOSITE** in meaning as the word printed in bold
- a) **Excellent**
- (1) Marvelous (2) Varied (3) Undistinguished (4) Conspicuous (5) Conclusive
5. Choose the word which is most nearly the **SAME** in meaning as the word printed in bold
- a) **Reflection**
- (1) Impression (2) Commotion (3) Thoughts (4) Concentration (5) Suggestion
- b) **Fanciful**
- (1) Ordinary (2) Grievous (3) Helpful (4) Absurd
- c) **Rational**
- (1) Ration (2) Amazing (3) Curious (4) Realistic (5) Violent
6. Which language of the Indian state of Meghalaya has been removed from UNESCO's Atlas of the World's Languages in Danger as it is now considered as safe?
- (1) Lotha (2) Garo (3) Kashi (4) Konyak (5) Angami
7. Which of the following is the name of annual military exercise between the navy of India and the United States?
- (1) MALABAR (2) VARUNA (3) SIMBEX (4) FRIENDSHIP (5) None of these
8. Which athlete is known as the Flying Sikh?
- 1) Milkha Singh 2) Yuvaraj Singh 3) Bhuta Singh 4) Balvinder Singh
9. A person seeking election to the office of the President of India must have completed the age of
- 1) 35 years 2) 40 years 3) 45 years 4) 30 years
10. How much time does the light take to reach the Earth from the sun?
- 1) 8 minutes 2) 12 minutes 3) 6 minutes 4) 10 minutes

PART B

1. Write short notes not exceeding 300 words on the following topics (25 marks) :-

- a. Distance Education and e-learning**
- b. Is Cloning Ethical?**
- c. Technical Higher Education in India**
- d. Borderless world: A Dream or a Reality**
- e. Contract Labour (Regulation & Abolition) Act, 1970**

2. Dictation (300 words) - (50 marks)

Take dictation and transcribe the paragraph in 30 minutes



राष्ट्रीय प्रौद्योगिकी संस्थान गोवा
NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, GOA - 403 401

Technician (Dept. of CSE) Written/Skill Test, 18th July 2021

Time: 02:00 PM to 03:00 PM (1 Hr)

Max. Marks - 30

Candidate Name:

Roll No.:

Important Instructions

1. MCQs (Part-A) are to be answered in the **OMR Sheet Only**
 2. Descriptive answers (Part-B) are to be written in the space provided in the question paper.
 3. There is negative marking for wrong answers in MCQs in 1:1 ratio. i.e., -1Mark for each wrong answer.
-

PART – A: Multiple Choice Questions (20 Qns – 1 Mark each)

1. What does MODEM stands for
 - a. Mainframe operating device memory
 - b. Modulator demodulator
 - c. Modular emulator
 - d. Modular extended memory
2. Command used for changing the permission of a file in Unix/Linux is
 - a. chperm
 - b. pch
 - c. chp
 - d. chmod
3. Which among the following is 8-bit unsigned representation for 37?
 - a. 00100110
 - b. 00100111
 - c. 01000101
 - d. 00100101
4. 8-bit two's-complement representation of -12 is
 - a. 00001100
 - b. 11110100
 - c. 10001100
 - d. 11110011
5. DDR SDRAM stands for
 - a. Dynamic data rate synchronous dynamic RAM
 - b. Dynamic data rate simultaneous dynamic RAM
 - c. Double data rate synchronous dynamic random access memory
 - d. None of the above

6. Which among the following is a correct order of presentation of layers of OSI reference model?
- Application, Session, Presentation, Transport, Network, Datalink, Physical
 - Application, Presentation, Network, Session, Transport, Data link, Physical
 - Physical, Data link, Transport, Network, Session, Presentation, Application
 - Physical, Data link, Network, Transport, Session, Presentation, Application
7. Which of the following address is used or reserved for loop back testing?
- 0.0.0.0
 - 1.1.1.1
 - 127.xx.yy.zz
 - None of the above
8. Which among the following is the corresponding IEEE standard for WiFi?
- IEEE 802.3
 - IEEE 802.11
 - IEEE 802.15
 - IEEE 802.18
9. Firewall examines each _____ that are entering or leaving the internal network
- User emails
 - Updates
 - Connections
 - Data packets
10. HTTP stands for
- Hyper Transfer Test Protocol
 - Hyper Text Transfer Protocol
 - Homogenous Transfer Text Protocol
 - None of the Above
11. The tag that contains information about the document including its title, scripts used, style definition and documentation description is
- <HTML>, </HTML>
 - <HEAD>, </HEAD>
 - <BODY>, </BODY>
 - <TITLE>, </TITLE>

12. What will be the output of the following C program?

```
#include<stdio.h>
#define CALC(a) printf("Val=%d",a);
int main()
{
    CALC(10);
    return 0;
}
```

- Val=0
- Val=10
- Error
- None of the above

13. Predict the output of the following program.

```
#include<stdio.h>
int main()
{
    int a = 5;
    int *ptr ;
    ptr = &a;
    *ptr = *ptr * 3;
    printf("%d", a);
    return 0;
}
```

- a. Garbage value
- b. 15
- c. 5
- d. 3

14. RISC stands for

- a. Reduced Information Sensed CPU
- b. Reduced Instruction Set Computer
- c. Reduced Intelligence Sensed CPU
- d. Reduced Instruction Set CPU

15. Function of control unit in the CPU is

- a. To transfer data to primary storage
- b. To store program instruction
- c. To perform logic operations
- d. To generate timing signals

16. Which software is NOT a free software alternative to Microsoft Office?

- a. Openoffice
- b. Libreoffice
- c. GoogleDocs
- d. Office365

17. Which SQL command is used to add a row in the table?

- a. select
- b. insert
- c. create
- d. drop

18. Stack is useful for implementing _____

- a. Radix sort
- b. Breadth first search
- c. Quick sort
- d. Recursion

19. What are the contents of the stack (initially the stack is empty) after the following operations?
PUSH(A)
PUSH(B)
PUSH(C)
POP
PUSH(D); POP; POP;
PUSH (E)
PUSH (F)
POP
- a. ABE
 - b. AE
 - c. A
 - d. ABCE
20. Which is true about linked list?
- a. A linked list is a dynamic data structure
 - b. A linked list is a static structure
 - c. A stack cannot be implemented by a linear linked list
 - d. None of the above

PART – B: Descriptive Questions (5 Qns – 2 Marks each)

(Answer in the space provided below the question)

1. What do you mean by truth table? Produce the truth table for the function $F = x + y'z$. Here y' corresponds to complement of y .
Answer:

2. In the prevailing pandemic situation, students are not present in the campus. The computers in the lab are kept idle. What is your plan to ensure the wellbeing of computers in your laboratory? (Answer in bulleted points)

Answer:

3. What will be the output of the following C language program? Give reason for the output obtained.

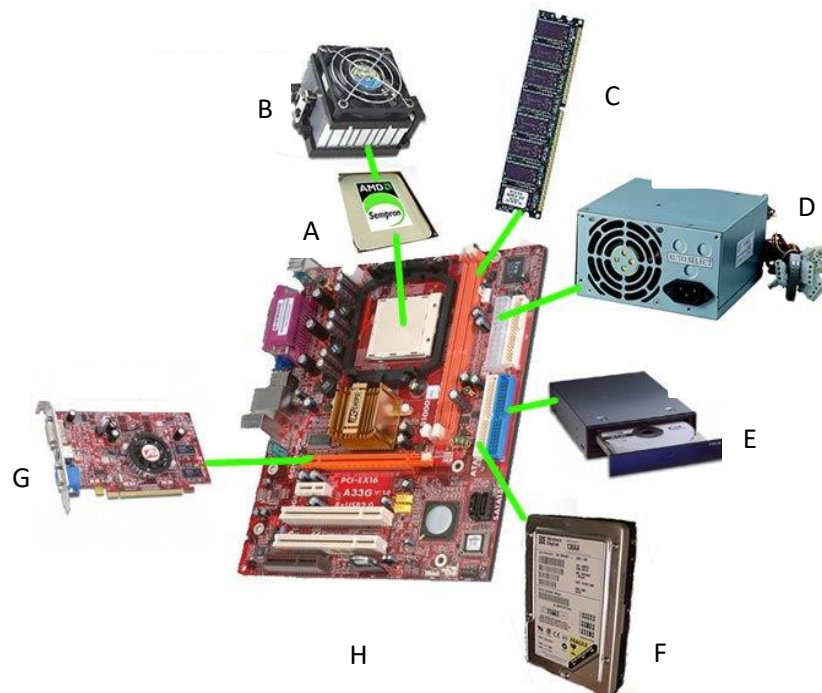
```
#include<stdio.h>
int main()
{
    int i;
    for(i=1;i<=5,i++)
    {
        printf("%d",i);
    }
    return 0;
}
```

Answer:

4. What is the significance of an IP Address? What is the difference between IPV4 and IPV6? Why is it said that IPV6 will never run out of IP addresses?

Answer:

5. Identify the various parts labelled A, B, C, D, E, F, G, and H given in the following figure corresponding to internal of a personal computer.



Answer:

NAME:	
Ack No.:	

National Institute of Technology Goa

Written Examination for the post of Technician (Computer Science)

Notes:

1. Choose the appropriate choice for the following questions and write the option only in the given answer sheet with capital letter
2. Each Question carries one mark and no negative marking for wrong answers
3. Question paper consists of two sections (1 & 2). Section 1 contains 60 Technical questions and Section 2 contains 15 General Aptitude questions

Section-1(Technical)

1. ALU is. ()
 a) Arithmetic Logic Unit b) Array Logic Unit
 c) Application Logic Unit d) None of above
2. The tracks on a disk which can be accessed without repositioning the R/W heads are. ()
 a) Surface b) Cluster
 c) Cylinder d) all of the above
3. CPU generated address is called _____ address. ()
 a) Logical b) Virtual
 c) neither a nor b d) both a & b
4. On 64-bit CPU which of the following operating system can be installed? ()
 a) 32-bit b) 64-bit
 c) both a & b d) neither a nor b
5. Which of the following is the 1's complement of 10? ()
 a) 01 b) 10
 c) 110 d) 11
6. The service(s) provided by operating system is/are ()
 a) Process management b) device management
 c) file system management d) all the above
7. The binary system uses powers of ()
 a) 10 b) 8
 c) 2 d) 16
8. Semaphores which are restricted to the values 0 and 1 are called. ()
 a) Binary semaphore b) counting semaphore
 c) semaphore d) either a or b or c

- 9 Any device that performs signal conversion is ()
 a) Modem b) Modulator
 c) Keyboard d) Plotter
- 10 Which of the following example of flash memory. ()
 a) floppy disk b) CD
 c) Hard Disk d) pen drive
- 11 Which of following embedded system ()
 a) Desktop b) mobile
 c) laptop d) both a & c
- 12 _____ is software to retrieve and update set of files. ()
 a) File system b) DBMS
 c) RDBMS d) SQL
- 13 The complete picture of data stored in database is known as ()
 a) record b) Foreign key
 c) Unique key d) Schema
- 14 A pen shaped device which can sense light, and is used to point at spots on a video screen. ()
 a) Mouse b) Light pen
 c) Keyboard d) CD drive
- 15 RAID stands for _____ ()
 a) Redundant Array Independent Disk b) Redundant Array Inexpensive Disk
 c) both a & b d) neither a nor b
- 16 The device that can both feed data into and accept data from a computer is ()
 a) Input-Output device b) ALU
 c) CPU d) none of the above
- 17 Which of the following is the coding of data so that it can't be easily understood if intercepted. ()
 a) Decoder b) Barcode
 c) both a & b d) Encryption
- 18 SQL stands for _____. ()
 a) Structured Query Language b) Sequence Query Language
 c) Stored Query Language d) Sequential Query Language
- 19 A modern digital computer has ()
 a) Extremely high speed b) Large memory
 c) Almost unlimited array d) All of the above
- 20 RAM is used as a short memory because it is ()
 a) non Volatile b) expensive
 c) volatile d) none of the above
- 21 _____ command is used to add the contents to the existing file. ()
 a) cat<< b) cat>
 c) cat< d) cat>>
- 22 A byte consists of _____ number of bits. ()
 a) 2 b) 8
 c) 16 d) 32
- 23 ls -l specifies _____. ()
 a) list of files b) long listing of files
 c) list of files in ascending order d) none
- 24 _____ command is used to check the destination IP address you want to reach and record the results. ()
 a) ping b) chmod

- 25 c) ipconfig d) none
_____ command is used to replace a existing file with new file name. ()
a) cp b) mv
c) rm d) both b & c
- 26 Hard disk is _____ device. ()
a) input b) output
c) both a & b d) Physical memory
- 27 ROM is _____. ()
a) non volatile b) virtual memory
c) volatile d) both b & c
- 28 Scanner is _____. ()
a) input device b) output device
c) either a or b d) both a & b
- 29 ASCII stands for _____. ()
a) American Standed Code for Information Inter change
b) American Standard Character for Information Inter change
c) American Standard Coded for Information Inter change
d) American Standard Code for Information Inter change
- 30 _____ command is used to display message in Unix operating system. ()
a) printf b) write
c) echo d) none
- 31 Which of the following printer uses Ink Cartridges for Ink? ()
a) dot matrix b) laser printer
c) inkjet printer d) both b & C
- 32 Physical memory consists of _____. ()
a) Hard disk b) RAM
c) both a & b d) either a or b
- 33 1GB= _____ KB. ()
a) 2^{10} b) 2^{30}
c) 2^{20} d) none
- 34 1TB= _____ MB. ()
a) 2^{30} b) 2^{20}
c) 2^{10} d) none
- 35 HTTP stands for _____. ()
a) Hyper Text Transport Protocol
b) Hyper Test Transfer Protocol
c) Hyper Text Transfer Protocol
d) none
- 36 SMTP stands for _____. ()
a) Simple Message Transfer Protocol
b) Simple Messaging Transfer Protocol
c) Simple Mailing Transfer Protocol
d) Simple Mail Transfer Protocol
- 37 _____ device is used to connect two networks of same type. ()
a) Bridge b) Router
c) Firewall d) both a & b

- 38 _____ is used to help keep a network secure. ()
 a) Antivirus b) Windows defender
 c) both a & b d) Firewall
- 39 OSI stands for _____. ()
 a) Open Store Inter Connection b) Open System Inter Connection
 c) Open Source Inter Connection d) Open Stack Inter Connection
- 40 _____ is a numerical label assigned to each device ()
 (e.g., computer, printer) participating in a computer network.
 a) MAC address b) IP address
 c) TCP/IP address d) both a & b
- 41 TELNET uses _____ port number. ()
 a) 32 b) 8080
 c) 23 d) 3030
- 42 Residences typically employ one LAN and connect to the Internet WAN via ()
 an _____ using a broadband modem.
 a) Internet Service Provider b) WWW
 c) Ethernet d) none
- 43 HTML stands for _____. ()
 a) Hyper Text Mark Language b) Hyper Text Markup Langage
 c) Hyper Text Machine Language d) Hyper Text Markup Language
- 44 A proxy server that passes requests and responses unmodified is usually called ()
 _____.
 a) a gateway b) tunneling proxy
 c) either a or b d) neither a nor b
- 45 _____ data structure allocates the memory equal to the maximum memory ()
 required by the member of the data structure.
 a) array b) Structure
 c) either a or b d) Union
- 46 Undefined pointers are called as _____. ()
 a) dangling pointers b) dead pointers
 c) darling pointers d) none
- 47 You are unsuccessful in telnetting into a remote device. What could the problem ()
 be?
 a) Access control list is filtering Telnet b) The VTY password is missing
 c) both a & b d) none of the above
- 48 Which of the following command(s) can be used to check LAN connectivity ()
 problems on a router?
 a) show interfaces b) show ip route
 c) ping d) all the above
- 49 If you want to have more than one Telnet session open at the same time, what ()
 keystroke combination would you use?
 a) Ctrl+Shift+6, then X b) Ctrl+X, then 6
 c) Ctrl+Shift+X, then 6 d) Tab+Spacebar
- 50 C is _____ level language. ()
 a) High b) Low
 c) Middle d) Assembly
- 51 What command is used to create a backup configuration? ()
 a) copy running backup b) copy running-config startup-config

- c) config mem
d) wr mem
- 52 You have 10 users plugged into a hub running 10Mbps half-duplex. There is a server connected to the switch running 10Mbps half-duplex as well. How much bandwidth does each host have to the server? ()
a) 100 kbps
b) 2 Mbps
c) 1 Mbps
d) 10Mbps
- 53 Which of the following commands will allow you to set your Telnet password on a Cisco router? ()
a) line telnet 0 4
b) line aux 0 4
c) line vty 0 4
d) line con 0
- 54 Which router command allows you to view the entire contents of all access lists? ()
a) show all access-lists
b) show access-lists
c) show ip interface
d) show interface
- 55 $(-14)_{10} = ()_2$
a) 110010
b) 101111
c) 101011
d) 100101
- 56 $(5-21)_{10} = ()_2$
a) 10001
b) 11000
c) 10000
d) none
- 57 $(45)_{10} = ()_{16}$
a) 2A
b) 2D
c) 2C
d) 2E
- 58 Choose the exact expression for 3 input ex-or gate ()
a) $x^1y^1z+x^1yz^1+xy^1z^1+x^1y^1z^1$
b) $x^1yz+xyz^1+xy^1z+x^1y^1z^1$
c) $x^1yz+xyz^1+xy^1z+xyz^1$
d) $x^1y^1z+x^1yz^1+xy^1z^1+xyz$
- 59 Which of the following is not currently a topic in computer science? ()
a) Artificial intelligence
b) Speech recognition
c) Multiprocessing
d) Thermodynamics
- 60 In the URL <http://www.cnn.com>, which part is the web protocol? ()
a) .com
b) http
c) cnn.com
d) www.cnn.com

-----Rough work-----

Section- 2(General Aptitude)

- 61) Look at this series: 7, 10, 8, 11, 9, 12,... What number should come next? ()
a) 7 b) 10
c) 12 d) 13
- 62) Look at this series: 2, 1, (1/2), (1/4), ... What number should come next? ()
a) (1/3) b) (1/8)
c) (2/8) d) (1/16)
- 63) Secretly is to openly as silently is to ()
a) scarcely b) impolitely
c) quietly d) noisily
- 64) Joe is younger than Kathy.
Mark was born after Joe.
Kathy is older than Mark.
If the first two statements are true, the third statement is ()
a) true b) false
c) uncertainty
- 65) Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of ()
the sum of 6% of A and 8% of B. Find the ratio of A: B.
a) 2:3 b) 1:1
c) 3:4 d) 4:3
- 66) Who is the current chairman of ISRO? ()
a) Dr. K Pradhan b) Dr.K Radha Krishnan
c) Dr DK Kharat d) Dr. K Kasturirangan
- 67) Which city is known as the 'Manchester of South India'? ()
a) Coimbatore b) Madurai
c) Bangalore d) Chennai
- 68) Who is current Defence Minister of India? ()
a) Dr. P Chidambaram b) Dr. M Pallam Raju
c) A.K Antony d) Dr. Manoj Tiwari
- 69) In 2012 London Olympics who won Silver medal for India in Rapid fire Pistol? ()
a) Vijay Hazare b) Abhinav Bindra
c) Vijay Kumar d) Kamaljit Sandhu
- 70) The Union Government on 15 May 2013 had set up an expert Committee under the ()
supervision _____ to evolve a composite index to measure backwardness of
states.
a) Bharat Ramaswami b) Raghuram G Rajan
c) Najeeb Jung d) Nirija G Jayal
- 71) **Mean** (Choose correct antonym) ()
a) Happy b) Tall
c) weird d) Nice
- 72) **Niece** (Choose correct antonym) ()
a) Brother b) Nephew
c) Uncle d) Angrily
- Directions for Q.No 73-74 Select the word, which is nearest in the meaning of the
given words ()
- 73) **Zenith** ()
a) Bright b) Top
c) Smart d) Wonderful

74) **Redundant**

()

- a) Superfluous
- c) Sacred

- b) Scared
- d) Dull

75) Today most businessmen are very worried. To begin with, they are not used to () competition. In the past they sold whatever _____ produced at whatever prices they chose.

- a) is
- c) they

- b) he
- d) was

-----Rough work-----



राष्ट्रीय प्रौद्योगिकी संस्थान गोवा
NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, GOA - 403 401

Technician (Dept. of Applied Sciences) Written/Skill Test, 18th July 2021

Time: 02:00 PM to 03:00 PM (1 Hr)

Max. Marks - 30

Candidate Name:

Roll No.:

Important Instructions

1. MCQs (Part-A) are to be answered in the **OMR Sheet Only**
2. Descriptive answers (Part-B) are to be written in the space provided in the question paper.
3. There is negative marking for wrong answers in MCQs in 1:1 ratio. i.e., -1 Mark for each wrong answer.

PART – A: Multiple Choice Questions (20 Qns – 1 Mark each)

- 1 What is the number of moles of SO_2 which contains 16 g of oxygen?
(A) 0.5 mole
(B) 0.25 mole
(C) 1 mole
(D) 5 mole
- 2 Which of the following has highest ionization potential
(A) Helium
(B) Neon
(C) Argon
(D) Xenon
- 3 The mass of one Avogadro number of water molecules is
(A) 8 g
(B) 16 g
(C) 18 g
(D) None of the above
- 4 Which in the following is primary standard
(A) Potassium permanganate
(B) Sodium hydroxide
(C) Sodium Carbonate
(D) None of the above
- 5 1.35 g of X element is completely converted to 1.88 g compound XO. What is the atomic weight of X?
(A) 20.32
(B) 40.76
(C) 16.25
(D) 56.10

6

Select the correct IUPAC name for



- (A) 1,4-dimethylcyclopentane
- (B) 1,3-dimethylcyclopentane
- (C) 2,5-dimethylcyclopentane
- (D) 2,3-dimethylcyclopentane

7

The most abundant rare gas in the atmosphere is

- (A) He
- (B) Ne
- (C) Ar
- (D) Xe

8



What does this symbol mean

- (A) Flammable
- (B) Inflammable
- (C) Oxidizing
- (D) Explosive

9

If the water molecule is linear

- (A) it would have a very high boiling point
- (B) it would be highly reactive
- (C) it would be highly ionic
- (D) its dipole moment would be zero

10

A current of 9.65 amp flowing for 10 minute deposits 3.0 g of a metal. The equivalent wt. of the metal is:

- (A) 10
- (B) 30
- (C) 50
- (D) 96.5

11

Focal length of the plane mirror

- (A) 0 cm
- (B) 10 cm
- (C) 20 cm
- (D) Infinite

12

In Bohr's hydrogen atom model, the radius of the stationary orbit is directly proportional to

- (A) n
- (B) n^{-1}
- (C) n^2
- (D) n^{-2}

13

In a transistor which of the following region is very lightly doped and is very thin

- (A) Emitter
- (B) Collector
- (C) Base
- (D) All are same

14

If the rocket is moving with the speed of light, the apparent length of rocket will be

- (A) Unchanged
- (B) Double
- (C) 4 times
- (D) Zero

- 15 A person travelling on a straight line moves with a uniform velocity v_1 for a distance x and with a uniform velocity v_2 for the next equal distance. The average velocity v is given by
- $v = v_1 + v_2$
 - $v = \sqrt{v_1 v_2}$
 - $2/v = 1/v_1 + 1/v_2$
 - $1/v = 1/v_1 + 1/v_2$
- 16 The distance moved by a particle in simple harmonic motion in one time period is
- A
 - 2A
 - 4A
 - zero
- 17 Which of the following property show that light is a transvers wave
- Reflection
 - Interference
 - 4 diffraction
 - Polarization
- 18 If $\mathbf{A} \times \mathbf{B} = \mathbf{B} \times \mathbf{A}$, then the angle between A and B is
- 30°
 - 60°
 - 90°
 - 180°
- 19 The maxwell's equation which remains unchanged, when a medium change is
- $\nabla \cdot \mathbf{B} = 0$
 - $\nabla \cdot \mathbf{E} = \frac{\rho}{\epsilon_0}$
 - $\nabla \times \mathbf{B} = \mu_0 \mathbf{J} + \mu_0 \epsilon_0 \partial \mathbf{E} / \partial t$
 - none of these
- 20 An air bubble in water will act like a
- Concave lens
 - Convex lens
 - Concave mirror
 - Convex mirror

PART – B: Descriptive Questions (5 Qns – 2 Marks each)

(Answer in the space provided below the question)

- 1 State and explain (a) Second law of thermodynamics and (b) Entropy. How are these two related?

2 Write the structures of the products when Butan-2-ol reacts with the following :

(a) CrO_3

(b) SOCl_2

3 Draw the structures of the following :

(a) H_2SO_3

(b) HClO_3

4 Calculate the efficiency of a reversible engine that operates between the temperatures 200°C and 120°C ?

- 5 Find the focal lengths of the two component lenses of an achromatic doublet of focal length 25 cm. The dispersive powers of the crown and flint glasses are 0.022 and 0.044 respectively?



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Technician (Dept. of ECE) Written/Skill Test, 18th July 2021

Time: 2:00 PM to 3:00 PM

Max. Marks - 30

Candidate Name:

Roll No.:

Important Instructions

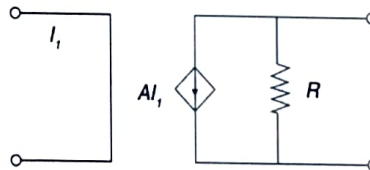
1. MCQs (Part-A) are to be answered in the **OMR Sheet Only**
2. Descriptive answers (Part-B) are to be written in the space provided in the question paper.
3. There is negative marking for wrong answers in MCQs in 1:1 ratio. i.e., -1Mark for each wrong answer.

PART – A: Multiple Choice Questions (20 Qns – 1 Mark each)

1. The damping ratio of a series RLC circuit can be expressed as

- (A) $\frac{R^2 C}{2L}$ (B) $\frac{2L}{R^2 C}$
(C) $\frac{R}{2} \sqrt{\frac{C}{L}}$ (D) $\frac{2}{R} \sqrt{\frac{L}{C}}$

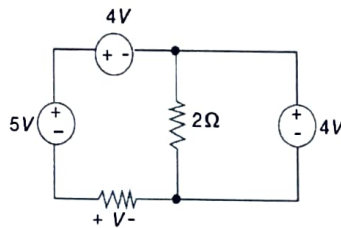
2. The circuit shown in the figure represents a



- (A) voltage controlled voltage source (B) voltage controlled current source
(C) current controlled current source (D) current controlled voltage source

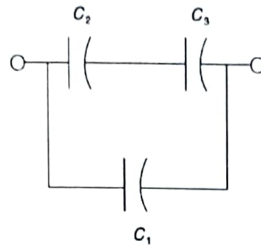
3. If the frequency of a radio wave is increased, then its wavelength will:
A. increase B. decrease C. remain the same D. none of these

4. The voltage V in the figure is equal to?



- (A) 3 V (B) -3 V (C) 5 V (D) None of these

5. Three capacitors C_1 , C_2 and C_3 whose values are $10\ \mu\text{F}$, $5\ \mu\text{F}$, and $2\ \mu\text{F}$, respectively, have breakdown voltages of $10\ \text{V}$, $5\ \text{V}$ and $2\ \text{V}$, respectively. For the interconnection shown below, the maximum safe voltage in volts that can be applied across the combination, and the corresponding total charge in μC stored in the effective capacitance across the terminals, are, respectively



- (A) 2.8 and 36 (B) 7 and 119 (C) 2.8 and 32 (D) 7 and 80
6. A network contains linear resistors and ideal voltage sources. If values of all the resistors are doubled, then the voltage across each resistor is
 (A) halved (B) doubled (C) increased by four times (D) not changed
7. A DC voltage source is connected across a series R-L-Circuit. Under steady-state conditions, the applied DC voltage drops entirely across the
 (A) R only (B) L only (C) C only (D) R and L combination
8. Superposition theorem is NOT applicable to networks containing
 (A) non-linear elements (B) dependent voltage sources
 (C) dependent current sources (D) transformers
9. For maximum power transfer between two cascaded sections of an electrical network, the relationship between the output impedance Z_1 of the first section to the input impedance Z_2 of the second section is
 (A) $Z_1 = Z_1$ (B) $Z_2 = -Z_1$
 (C) $Z_2 = Z_1^*$ (D) $Z_2 = -Z_1^*$
10. What is the color code for a 220Ω , 5% resistor?
 (A). Red, Red, Brown, Gold (B). Orange, Orange, Black, Gold
 (C). Red, Red, Black, Gold (D). Red, Red, Brown, Silver
11. Signal flow graph is used to find
 (A) Stability of the system (B) Controllability of the system
 (C) Transfer function of the system (D) Poles of the system.
12. The final value theorem is used to find the
 (A) steady-state value of the system output (B) initial value of the system output
 (C) transient behaviour of the system output (D) none of these.
13. The logical expression $Y = A + \bar{A}B$ is equivalent to
 (A) $y = AB$ (B) $y = \bar{A}B$ (C) $y = \bar{A} + B$ (D) $y = A + B$

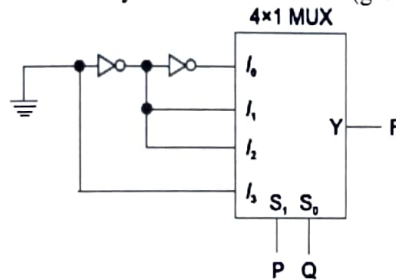
14. Resistance is measured using the device

- (A) Voltmeter (B) Ammeter (C) Ohmmeter (D) none of the above

15. A bulb in a staircase has two switches, one switch being at the ground floor and the other one at the first floor. The bulb can be turned ON and also can be turned OFF by any one of the switches irrespective of the state of the other switch. The logic of switching of the bulb resembles

- (a) an AND gate (b) an OR gate (c) an XOR gate (d) a NAND gate

16. The logic function implemented by the circuit below is (ground implies a logic '0')

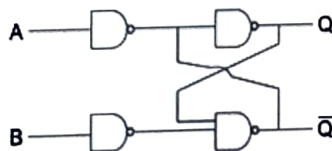


- (a) $F = \text{AND}(P, Q)$ (b) $F = \text{OR}(P, Q)$ (c) $F = \text{XNOR}(P, Q)$ (d) $F = \text{XOR}(P, Q)$

17. A master-slave flip-flop has the characteristic that

- (a) Change in the input immediately reflected in the output
(b) change in the output occurs when the state of the master is affected
(c) Change in the output occurs when the state of the slave is affected
(d) both the master and the slave states are affected at the same time

18. The circuit given below is a



- (a) J-K flip-flop (b) Johnson's counter (c) R-S latch (d) None of above

19. The full forms of the abbreviations TTL and CMOS in reference to logic families are

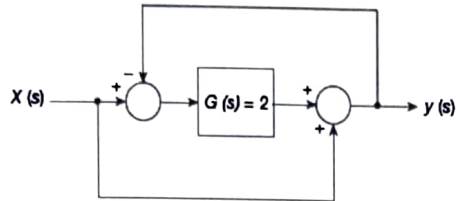
- (a) Triple Transistor Logic and Chip Metal Oxide Semiconductor
(b) Tristate Transistor Logic and Chip Metal Oxide Semiconductor
(c) Transistor Transistor Logic and Complementary Metal Oxide Semiconductor
(d) Transistor Transistor Logic and Complementary Metal Oxide Silicon

20. An 8085 microprocessor based system uses a $4\text{ K} \times 8\text{ bit}$ RAM whose starting address is AA00 H. The address of the last byte in this RAM is

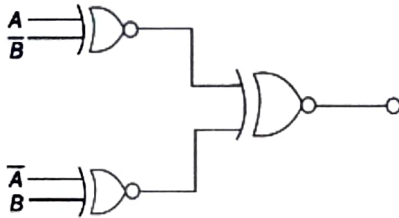
- (a) 0FFFH (b) 1000H (c) B9FFH (d) BA00H

PART – B: Descriptive Questions (Total 10 Marks, 5qns- 2 marks each)

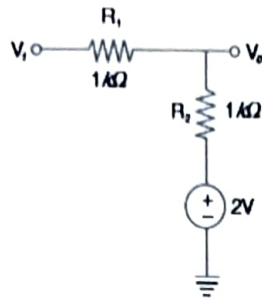
1. For the system shown in the figure $Y(s)/X(s) = \underline{\hspace{2cm}}$



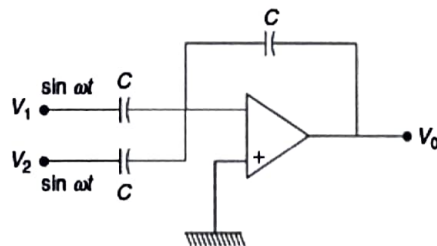
2. The output of the circuit shown in figure is equal to



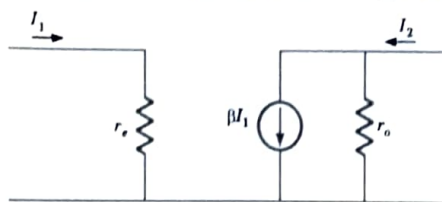
3. The diode in the circuit shown has $V_{on} = 0.7 \text{ V}$ but is ideal otherwise. If $V_i = 5\sin(\omega t) \text{ V}$, Calculate the minimum and maximum values of V_o (in volts).



4. If the op-amp in the figure is ideal, then what is the expression and shape of output V_o ?



5. In the two port network shown in the figure below Z_{12} and Z_{21} are respectively





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NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, GOA - 403 401

Technician (Dept. of EEE) Written/Skill Test, 18th July 2021

Time: 2:00 – 3:00 PM (1 Hr)

Max. Marks - 30

Candidate Name:

Roll No.:

Important Instructions

1. MCQs (Part-A) are to be answered in the **OMR Sheet Only**
2. Descriptive answers (Part-B) are to be written in the space provided in the question paper.
3. There is negative marking for wrong answers in MCQs in 1:1 ratio. i.e., -1Mark for each wrong answer.

PART – A: Multiple Choice Questions (20 Qns – 1 Mark each)

1. The lamp that cannot sustain much voltage fluctuations is
 - (a) Sodium vapour lamp
 - (b) Mercury vapour lamp
 - (c) Incandescent lamp
 - (d) Mercury iodide lamp
2. Five 60 W bulbs are connected in parallel across 230 V AC supply. If one bulb gets fused
 - (a) All four bulbs will Glow
 - (b) No bulb will Glow
 - (c) Other three bulbs will Glow
 - (d) None of the above
3. How are 500 Ω resistors connected so as to give an effective resistance of 750 Ω ?
 - (a) Three resistors of 500 Ω each connected in parallel
 - (b) Three resistors of 500 Ω each connected in series
 - (c) Two resistors of 500 Ω each connected in parallel
 - (d) Two resistors of 500 Ω each connected in parallel with another 500 Ω in series
4. Scott connections are used for
 - (a) 1-Ph to 3-Ph transformation
 - (b) 3-Ph to 1-Ph transformation
 - (c) 3-Ph to 2-Ph transformation
 - (d) (d) None of these

5. The average value of a sinusoidal signal with 100 A peak current value is
(a) 0 A (b) 25 A (c) 50 A (d) 70.7 A
6. The power factor of a practical inductor is
(a) Unity (b) Zero (c) Lagging (d) Leading
7. Which motor is used for power factor improvement?
(a) Induction motor
(b) Under excited Synchronous motor
(c) Over excited Synchronous motor
(d) DC series motor
8. The capacitor in an electric fan is connected in
(a) Series with the starting winding
(b) Series with the main winding
(c) Parallel with the starting winding
(d) None of the above
9. The unit of temperature measurement is
(a) Mole (b) Kelvin (c) Lumen (d) Pascal
10. Which one of the following is used as an active device in electronic circuits
(a) Transformer (b) Electric heater (c) SCR (d) Loud speaker
11. The colour code of a 5-bands resistance is 4.7 k Ω
(a) Yellow, Violet, Black, Brown
(b) Yellow, Black, Brown, Brown
(c) Brown, Black, Red, Red
(d) Yellow, Black, Brown, Red
12. Which of the following device can act as short circuit with DC and as Open circuit for AC of high frequency
(a) Inductor (b) Capacitor (c) Resistor (d) None of these
13. The present Cabinet Minister - Power, New and Renewable Energy is
(a) Mr. Piyush Goyal (b) Mr. Prakash Javadekar
(c) Mr. Raj Kumar Singh (d) Mr. Mukhtar Abbas Naqvi
14. Which of the following is usually not a generation level voltage?
(a) 6.6 kV (b) 11kV (c) 33 kV (d) 3.3 kV

15. The highest DC transmission (HVDC) level voltage in India
(a) 400 kV (b) 800 kV (c) 600 kV (d) 765 kV
16. The thermal power rating of a transmission line conductor is a function of
(a) Ambient Temperature, Humidity, Wind speed
(b) Ambient Temperature, Solar energy
(c) Ambient Temperature, Wind energy
(d) None of the above
17. No load test in a transformer is conducted to find out
(a) Hysteresis Loss (b) Copper Loss
(c) Eddy current loss (d) Total Iron Loss
18. Find least common multiple (L.C.M) of 16, 24, 36 and 54
(a) 430 (b) 432 (c) 452 (d) 450
19. Rohit was 4 times as old as his son 8 years ago. After 8 years, Rohit will be twice as old as his son. What are their present ages?
(a) Rohit - 60, Son – 36
(b) Rohit - 40, Son – 16
(c) Rohit - 80, Son – 56
(d) Rohit - 30, Son – 6
20. Look at the series, what number should come next? 5, 7, 14, 16, 32, 34, ____
(a) 36 (b) 38 (c) 60 (d) 68

PART – B: Descriptive Questions (4 Qns – 2.5 Marks each)

(Answer in the space provided below the question)

- 21. Write the merits and demerits of conducting “Virtual Laboratories” in Engineering education?**

Answer:

22. Write the steps involved in conducting electrical grid synchronization tests?

Answer:

23. Write the basic precautions to be taken while conducting Electrical Lab experiments.

Answer:

24. How do you rescue a person while experiencing an “Electrical Shock”?

Answer:



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NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, GOA - 403 401

Junior Assistant, Written/Skill Test, 17th July 2021

Time: 2:00 PM to 3:00 PM (1 Hr)

Max. Marks - 30

Candidate Name:

Roll No.:

Important Instructions

1. MCQs (Part-A) are to be answered in the OMR Sheet Only
2. Descriptive answers (Part-B) are to be written in the space provided in the question paper.
3. There is negative marking for wrong answers in MCQs in 1:1 ratio. i.e., -1Mark for each wrong answer.

PART – A: Multiple Choice Questions (30 Qns – 1 Mark each)

1. Identify the tense of the sentence: "Are you playing tennis?"
A. simple present B. simple past C. past continuous D. present continuous
2. After having tea, he settled himself _____ his arm chair.
A. into B. over C. to D. on
3. Complete the sentence with sequence of words given jumbled below :
All religions are
(P) to advance the cause of peace
(Q) in a holy partnership
(R) justice and freedom
(S) bound together
A. PQRS B. PRQS C. SPQR D. SQPR
4. Complete the paragraph by filling the appropriate missing line given below.

If you can't give every student a computer, at least give them a mouse each.
_____. This seems to be the reason behind Microsoft Research Lab India's development of a software solution that allows the use of multiple mice in a computer.

- (i) According to a recent study, it was seen that at least five students worked on a single computer in government schools.
(ii) This will help them use the same computer simultaneously for the cost of a few extra mice.
(iii) Each mouse will have a different cursor color and all of them are displayed on the monitor.

A. i and ii B. Only i C. Only ii D. Only iii

5. Find the one which does not belong to that group?
A. India : Rupee
B. America : Dollar
C. Quwait : Dinar
D. Australia : Pound
6. Find the one which does not belong to that group?
A. 8 B. 27 C. 64 D. 125
7. Find the one which does not belong to that group?
A. 1P6 B. 2Y4 C. 2T0 D. 1R8
8. If y exceeds x by 20%, then x is less than y by?
A. 16% B. $16\frac{1}{3}\%$ C. $16\frac{2}{3}\%$ D. $16\frac{3}{5}\%$
9. The tank full of petrol in Arun's motorcycle lasts for 10 days, if he starts using 25% more every day for how many days will the tank full of petrol last?
A. 5days B. 6days C. 7days D. 8days
10. Which team has won COPA America football championship 2021 and who scored the winning goal?
A. Brazil & Lionel Messi B. Argentina & Lionel Messi
C. Argentina & Angel Di Maria D. Italy & Angel Di Maria
11. This form is used when important and urgent external communications received or Important and urgent decisions taken internally have to be communicated within the System for information and compliance by employees
A. Office order B. Circular C. Notice D. Office Memorandum
12. When Constitution of India was adopted?
A. 26th January 1950 B. 26th November 1950
C. 15th November 1948 D. 26th November 1949
13. The ratio between the length and breadth of our tricolour national flag according to our Constitution is
A. 3 : 1 B. 3 : 2 C. 3 : 3 D. 3 : 4
14. To whom the *visitor is referred to* in NIT System Act and Statutes?
A. Prime Minister B. Home Minister C. President D. Director
15. The process aimed at acquiring goods or/and services at the lowest price. The belief is to stimulate competition and minimize discrimination
A. market survey B. open tender C. limited tender E. none of the above

16. What is the name of the Government of India portal for procurement of Goods/Service online in government procurement?
 A. Amazon B. GEM C. NIC D. MoE
17. All limited/ open Tender inquiries should be published in which portal.
 A. CPPP B. NIC C. News Paper D. PFMS
18. The rate of Subsistence Allowance detail is mentioned in which rule?
 A. FR 53 B. FR 54 C. FR 10 D. Rule 10 of CCS
19. What disciplinary powers under CCS (CCA) Rules 1965 can an officer appointed to perform the current duties can exercise
 a) He can exercise disciplinary powers to impose minor penalties prescribed under Rule 11 of CCS (CCA) Rules 1965
 b) He can exercise disciplinary powers to impose minor and major penalties prescribed under Rule 11 of CCS (CCA) Rules 1965
 c) He can exercise administrative or financial power but cannot exercise statutory disciplinary powers.
 d) He can exercise all statutory disciplinary powers similar to that of a regular incumbent
 A. a and b B. b and c C. d D. b
20. Purchase can be made through quotation up to the maximum price of Rs.?
 A. Rs. 250000 B. Rs. 100000 C. Rs. 150000 D. Rs. 200000
21. Minimum qualifying service for annual increment for central government employee is?
 A. 1 Year B. 8 Month C. 6 Month D. 9 Month
22. How many maximum days of EL can be availed by government employee in a single stretch?
 A. 60 days B. 90 days C. 120 days D. 180 days
23. What is cost plus contract
 A. A contract where cost is added
 B. Cost of supplies plus profit at a fixed rate per unit or at a fixed %
 C. Cost of supplies minus profit at a fixed rate per unit or at a fixed %
 D. None of these
24. If a Government employee resigns on 30th December, how many days of earned leave will he be entitled to during the half year?
 A. 12.5 Day B. 13 Day C. 15 Day D. 30 Day

25. Reservation for the scheduled castes and scheduled tribes in the services has been provided in the Indian Constitution under which article?
A. Article 315 B. Article 335 C. Article 365 D. Article 375
26. If the administrative authority within a department is vested in a single individual, then that system is known as?
A. Board B. Bureau C. Commission D. Council
27. What was increased contribution of NPS by the Central Government and when it is implemented?
A. 10 %-.01/04/2019 B. 12%-01/12/2019
C. 14%-01/04/2019 D. 14%-01/01/2019
28. When there is no public transport available, what is the maximum limit of distance in kms shall be reimbursable to a Government servant for a particular stretch of journey during LTC covered by private/personal transport based on his self-certification?
A. 500km B. 200km C. 100km D. Not Allowed
29. What is full form of PFMS ?
A. Public Financial Managing System
B. Public Fund Management System
C. Procurement Fund Managing System
D. Public Financial Management System
30. What is full form of SAR & IR in terms of CAG Audit
A. Special Audit Report & Independent Report
B. Separate Audit Report & Independent Report
C. Separate Audit Report & Inspection Report
D. Special Audit Report & Inspection Report

Best of Luck



NATIONAL INSTITUTE OF TECHNOLOGY GOA
Farmagudi, Ponda, Goa – 403401

**QUESTION PAPER FOR
WRITTEN TEST FOR RECRUITMENT OF JUNIOR ASSISTANT**

- Note :**
1. There are two parts in this paper.
 2. Total marks for this paper: 100 marks, 25 marks for Part A and 75 marks for Part B.
 3. Maximum time allowed: **1 hour 30 minutes**

(All questions IN Part A, B, C carry 1 mark each)

PART A

1. Study the following information carefully and answer the given questions?

A. Identify missing number at the end of the series
662, 645, 624, 599, ?

- 1) 587 2) 566 3) 589 4) 570

B. Identify missing number with in the series
98, 94, ?, 70, 38

- 1) 89 2) 85 3) 86 4) 87

2. Study the following information carefully and answer the given questions?

C D E % 2 4 # A B © L M N \$ 3 6 7 P Q I & © Z Y ∞ 8 F G H 9 β

- a) How many such consonants are there in the above arrangement each of which is immediately preceded by a vowel and immediately followed by a number?

- (1) None (2) One (3) Two (4) Three (5) None of these

- b) How many such vowels are there in the above arrangement each of which is immediately preceded by a consonant and immediately followed by a symbol?

- (1) None (2) Four (3) Three . (4)Two (5) None of these

- c) If all the numbers are deleted from the above arrangement then which of the following symbol/letter will be eighteenth from the right side?
- (1) M (2) L (3) N (4) \$ (5) None of these
- d) Which of the following element is eleventh to the left to the eight from the right?
- (1) \$ (2) 6 (3) 3 (4) N (5) None of these
3. Read the paragraph and answer the following questions

Paragraph 1

Less than a month-and-a-half after the murder of 19-year-old Aman, comes the news of the death of Shanno, 11, a class II student of a Municipal Corporation of Delhi (MCD)-run Girls' Primary School. Shanno was allegedly made to squat with bricks on shoulders under the blazing sun for two hours because she could not spell words in English. According to her medical report, Shanno died due to "prolonged standing". Though the two deaths---Aman's and Shanno's ---took place under different circumstances (one due to ragging and the other due to corporal punishment), these incidents prove that court orders and sensitisation programmes alone are not enough to curb such heinous crimes. In fact, on March 19, a teacher, again at an MCD school, beat up 10 students with a nail-riddled cane. The Delhi High Court banned corporal punishment in 2001.

- Q. a. How did Shanno die?
 Q. b. What was Shanno's fault?
 Q. c. What happened on March, 19 at an MCD-run school?
 Q. d. How did Aman die?
 Q. e. What is corporal punishment?

Paragraph 2

Rehana, an eight-year old girl, can ask for alms in English, French and Spanish. She has never been to a regular school, but she is preparing for the Commonwealth Games. The games are a landmark event on the calendars of beggars in Delhi. Preparations go on, in full swing, to make the most of the inflow of international tourists.

Veteran beggar Raju runs a grooming school, where he shares his knowledge and tips to improve begging skills with a select group of 45 children. Neelam is the head trainer in this school, where classes are held three nights a week---out in the open.

- Q. a. What is so special about Rehana?

Q.b.What does Raju do?

Q.c. Who is Neelam?

Q.d. What is the meaning of the expression, “make the most of”?

Q.e. What do you understand by “Grooming School”?

4. Choose the word which is most nearly the **OPPOSITE** in meaning as the word printed in bold
- a) **Excellent**
- (1) Marvelous (2) Varied (3) Undistinguished (4) Conspicuous (5) Conclusive
5. Choose the word which is most nearly the **SAME** in meaning as the word printed in bold
- a) **Reflection**
- (1) Impression (2) Commotion (3) Thoughts (4) Concentration (5) Suggestion
- b) **Fanciful**
- (1) Ordinary (2) Grievous (3) Helpful (4) Absurd
- c) **Rational**
- (1) Ration (2) Amazing (3) Curious (4)Realistic (5) Violent
6. Which language of the Indian state of Meghalaya has been removed from UNESCO's Atlas of the World's Languages in Danger as it is now considered as safe?
- (1) Lotha (2) Garo (3) Kashi (4) Konyak (5) Angami
7. Which of the following is the name of annual military exercise between the navy of India and the United States?
- (1) MALABAR (2) VARUNA (3) SIMBEX (4) FRIENDSHIP (5) None of these
8. Which athlete is known as the Flying Sikh?
- 1) Milkha Singh 2) yuvaraj singh 3) Bhuta singh 4) Balvinder singh
9. A person seeking election to the office of the President of India must have completed the age of
- 1) 35 years 2) 40 years 3) 45 years 4) 30 years
10. How much time does the light take to reach the Earth from the sun?
- 1)8 minutes 2) 12 minutes 3) 6 minutes 4) 10 minutes

PART B

- 1. Write short notes of about 500 words on the following topics (15 marks each):-**
 - a. Technical Higher Education in India**
 - b. 2G Spectrum**
 - c. Distance Education and e-learning**
 - d. Is Cloning Ethical?**
 - e. Borderless world: A Dream or a Reality**

WRITTEN TEST FOR RECRUITMENT OF NURSE

- Note :**
1. There are four parts in this paper. All questions given in each part are to be answered in the booklet only.
 2. Total marks for this paper : 100 marks, 25 marks for Part A, B, C and 65 marks for Part B.
 3. Write the answer very clearly in the Space provided.
 4. Maximum time allowed : 1 hour 30 minutes

(All questions IN Part A, B, C carry 1 mark each)

PART A

1. Study the following information carefully and answer the given questions:

Ten members A, Z, B, Y, C, X, D, W, E and V are sitting around a circle facing towards centre and outside the centre. Z is sitting fifth to the right of A who is facing towards the centre. V does not sit between those members who are facing the centre. W is facing outside the centre and D is sitting fifth to the left of W. C is sitting fifth to the right of X. X is not an immediate neighbour of A and W. D is facing towards the centre and is immediate neighbour of X. V is not the neighbour of Z, B is sitting between V and Z. E is an immediate neighbour of A. W is sitting second to the right of A. Z is facing towards centre.

- a) Who is sitting sixth to the left of D?

(1) W (2) V (3) C (4) A (5) None of these

- b) Who is sitting in front of Y?

(1) X (2) V (3) B (4) Can't be determined (5) None of these

- c) Who is sitting fourth to the right of Z?

(1) E (2) Y (3) C (4) Can't be determined (5) None of these

- d) Which members are sitting between A and V?

(1) C and B (2) E and Y (3) X and B (4) G and W (5) D and X

- e) In which of the following pair, first person is sitting immediately left to the second person?

(1) YD (2) XZ (3) OW (4) VD (5) EA

2. Study the following information carefully and answer the given questions?

C D E % 2 4 # A B © L M N \$ 3 6 7 P Q I & © Z Y ∞ 8 F G H 9 ß

- a) How many such consonants are there in the above arrangement each of which is immediately preceded by a vowel and immediately followed by a number?
- (1) None (2) One (3) Two (4) Three (5) None of these
- b) How many such vowels are there in the above arrangement each of which is immediately preceded by a consonant and immediately followed by a symbol?
- (1) None (2) Four (3) Three (4) Two (5) None of these
- c) If all the numbers are deleted from the above arrangement then which of the following symbol/letter will be eighteenth from the right side?
- (1) M (2) L (3) N (4) \$ (5) None of these
- d) Which of the following element is eleventh to the left to the eight from the right?
- (1) \$ (2) 6 (3) 3 (4) N (5) None of these
- e) How many such numbers are there in the above arrangement each of which is immediately preceded by a symbol and immediately followed by a consonant?
- (1) None (2) Two (3) Three (4) Four (5) None of these

PART B

3. Read the following passage carefully and answer the questions given below:

Have you ever come across a painting, by Picasso, Mondrian, Miro, or any other modern abstract painter of this century, and found yourself engulfed in a brightly coloured canvas which your senses cannot interpret? Many people would tend to denounce abstractionism as senseless trash. These people are disoriented by Mire's bright fanciful creatures and two- dimensional canvases. They click their tongues and shake their heads at Mondrian's grid works, declaring the poor guy played too many scrabble games. They silently shake their heads in sympathy for Picasso, whose gruesome, distorted figures must be a reflection of his mental health. Then, standing in front of a work by Charlie Russel, the famous Western artist, they'll declare it a work of God. People feel more comfortable with something they can relate to and understand immediately without too much thought. This is the case with the work of Charlie Russell. Being able to recognize the elements in his paintings-- trees, horses and cowboys – gives people a safety line to their world or, 'reality

- a) What is the author asking his readers, in the paragraph?
- (1) He is asking, if the readers have ever visited any of the museums in the country.
(2) He is asking, if readers know who Picasso, Miro, Mondrian are.
(3) He wants to know If the readers go to any painting exhibitions or not.

- (4) He is asking, if the readers have ever been able to interpret the paintings by Picasso, Mondrian, Miro etc.
- (5) He is asking, if readers own any of the paintings made by Picasso, Miro, or Mondrian

4. Choose the word which is most nearly the **OPPOSITE** in meaning as the word printed in bold

a) **Excellent**

(1) Marvelous (2) Varied (3) Undistinguished (4) Conspicuous (5) Conclusive

5. Choose the word which is most nearly the **SAME** in meaning as the word printed in bold

a) **Reflection**

(1) Impression (2) Commotion (3) Thoughts (4) Concentration (5) Suggestion

b) **Fanciful**

(1) Ordinary (2) Grievous (3) Helpful (4) Absurd

c) **Rational**

(1) Ration (2) Amazing (3) Curious (4) Realistic (5) Violent

6. Rearrange the following sentences (A), (B), (C), (D), (E), (F) and (G) in the proper sequence to form a meaningful paragraph, then answer the questions given below them.

- (A) Emigration of a large group of individual.
- (B) The reason usually include two aspects.
- (C) In terms of individual there are family influence and personal preference.
- (D) Human capital flight, more commonly referred to as "brain drain" is the large scale
- (E) In terms of countries, the reason may be social environment.
- (F) With technical skills or knowledge.
- (G) Which respectively come from countries and individuals.

a) Which of the following is the **LAST** statement after rearrangement?

(1) A (2) C (3) B (4) E (5) F

b) Which of the following is the **FIRST** statement after rearrangement?

(1) B (2) F (3) D (4) G (5) C

c) Which of the following is the **SECOND** statement after rearrangement?

(1) B (2) A (3) C (4) E (5) F

d) Which of the following is the **THIRD** statement after rearrangement?

(1) C (2) 0 (3) E (4) B (5) F

e) Which of the following is the **FIFTH** statement after rearrangement?

(1) G (2) A (3) E (4) D (5) C

PART C

7. Which language of the Indian state of Meghalaya has been removed from UNESCO's Atlas of the World's Languages in Danger as it is now considered as safe?

(1) Lotha (2) Garo (3) Kashi (4) Konyak (5) Angami

8. Which of the following is the name of annual military exercise between the navy of India and the United States?

(1) MALABAR (2) VARUNA (3) SIMBEX (4) FRIENDSHIP (5) None of these

9. In which district of Gujarat, the Ode village massacre took place on March 1, 2002?

(1) Anand (2) Jamnagar (3) Vadodara (4) Ahmedabad (5) Gandhi Nagar

10. Finance Minister Pranab Mukherjee in the Budget 2012-13 proposed raising custom duty on gold from 2 percent to _____

(1) 4 % (2) 5% (3) 6 % (4) 8 % (5) None of these

11. The Beijing Olympics bronze medallist Vijender Singh has qualified for the London Olympics in the category of _____

(1) 72kg (2) 70"kg (3) 75 kg, (4) 66 kg (5) None of these

PART D

NAME:	
Ack No.:	

National Institute of Technology Goa

Written Examination for the post of Multitasking Staff

Notes:

1. Choose the appropriate choice for the following questions and write the option only in the given answer sheet with capital letter

2. Each Question carries one mark and no negative marking for wrong answers

1. Which device is used as the standard pointing device in Graphical User Environment?

- | | |
|-------------|---------------|
| a) Keyboard | b) Mouse |
| c) Joystick | d) Track Ball |

2. On order to play and hear sound on a Computer, one needs

- | | |
|----------------------------|----------------------|
| a) Sound card and Speakers | b) Microphone |
| c) Both a & b | d) None of the above |

3. An organization that needs to produce hundreds or thousands of pages a day, the _____ is the most logical choice.

- | | |
|---------------|----------------|
| a) dot-matrix | b) Laser |
| c) Ink jet | d) thermal-wax |

4. To get your vehicle out of a skid, you should first:

- | | |
|---|---|
| a. Steer straight ahead. | b. Steer in the opposite direction of the skid. |
| c. Steer in the direction you want to go. | d. Apply brakes hard. |

5. What must a driver do before entering a highway from a private road or driveway?

- a. Enter or cross the highway as quickly as possible.
- b. Yield right-of-way to all vehicles approaching on the highway.
- c. Sound horn and proceed with caution.
- d. Give hand signal then take right-of-way.

6. When the driver of another vehicle is about to overtake and pass your vehicle, you must:

- a. Speed up so that passing is not necessary.

- b. Move to the left to prevent passing.
- c. Signal to the other driver not to pass.
- d. Move to the right and allow such vehicle to pass.

7. Never change lanes in traffic without:

- a. Looking in the rear view mirror only.
- b. Giving proper signal and looking to make sure the move can be made safely.
- c. Blowing your horn and looking to the rear.
- d. Decreasing speed and giving correct signal.

8. Which of the following device contains IP address?

- a) Printer
- b) Scanner
- c) Joystick
- d) both a & b

9. How to send a fax. (Write the answer here)

10. Which of the following device(s) is/are used for connecting internet?

- a. Modem
- b. Dongle
- c. both a &
- d. none of the above.

11) Look at this series: 7, 10, 8, 11, 9, 12,... What number should come next? ()

- a) 7
- b) 10
- c) 12
- d) 13

12) Look at this series: 2, 1, (1/2), (1/4), ... What number should come next? ()

- a) (1/3)
- b) (1/8)
- c) (2/8)
- d) (1/16)

13) Secretly is to openly as silently is to ()

- a) scarcely
- b) impolitely
- c) quietly
- d) noisily

14) Joe is younger than Kathy. ()

Mark was born after Joe.

Kathy is older than Mark.

If the first two statements are true, the third statement is

- a) true
- b) false
- c) uncertainty

15) Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A: B. ()

- a) 2:3
- b) 1:1
- c) 3:4
- d) 4:3

16) Who is the current chairman of ISRO? ()

- a) Dr. K Pradhan
- b) Dr.K Radha Krishnan
- c) Dr DK Kharat
- d) Dr. K Kasturirangan

17) Which city is known as the 'Manchester of South India'? ()

- a) Coimbatore
c) Bangalore
- b) Madurai
d) Chennai
- 18) Who is current Defence Minister of India? ()
a) Dr. P Chidambaram
b) Dr. M Pallam Raju
c) A.K Antony
d) Dr. Manoj Tiwari
- 19) In 2012 London Olympics who won Silver medal for India in Rapid fire Pistol? ()
a) Vijay Hazare
b) Abhinav Bindra
c) Vijay Kumar
d) Kamaljit Sandhu
- 20) The Union Government on 15 May 2013 had set up an expert Committee under the supervision _____ to evolve a composite index to measure backwardness of states. ()
a) Bharat Ramaswami
b) Raghuram G Rajan
c) Najeed Jung
d) Nirja G Jayal
- 21) **Mean** (Choose correct antonym) ()
a) Happy
b) Tall
c) weird
d) Nice
- 22) **Niece** (Choose correct antonym) ()
a) Brother
b) Nephew
c) Uncle
d) Angrily
- Directions for Q.No 73-74 Select the word, which is nearest in the meaning of the given words
- 23) **Zenith** ()
a) Bright
b) Top
c) Smart
d) Wonderful
- 24) **Redundant** ()
a) Superfluous
b) Scared
c) Sacred
d) Dull
- 25) Today most businessmen are very worried. To begin with, they are not used to competition. ()
In the past they sold whatever _____ produced at whatever prices they chose.
a) is
b) he
c) they
d) was
- 26) Single phase 3 pin power supply will have one _____ terminal, one _____ terminal, one _____ terminal
- 27) Man experiences shock from ()
(a). Telephone Wire (b). Electrical Wire
(c). Internet Wire (d). All the above
- 28) Tube is not glowing. It may be because of ()
(a) no power supply (b). Condenser not working
(c). tube might not working (d). any of above reasons
- 29) _____ Paper is used to take photo copies from xerox machine ()
(a). A3 (b).A4 (c). A2 (d).A1
- 30) A Man touched a power Electric wire accidentally and he felt shock. What would you do ()
primarily if you are at nearby?
(a). Call 108 (b). Call police
(c). remove the same wire with your hand (d). turn off the supply

- 31) In case of medical emergency to an employee in your office, you call ()
(a). 108 (b). 208 (c). 100 (d). 50
- 32) What is the primary reason, If fan is running slowly ()
(a) condenser is weak b) switch is not proper
(c) wire is not properly connected d) dust on the fan
- 33) What should a person wear in the vicinity of electrical equipment? ()
(a) cloths b) shoes
(c) spectacles d) non of the above
- 34) How can we identify the live electric wire? ()
(a) Screw driver b) spanner
(c) tester d) hammer
-

Rough work

Name	
Mobile No	
E-Mail	

QUESTION PAPER FOR WRITTEN TEST FOR RECRUITMENT OF Multi-Tasking Staff

NOTE:

1. There are **Two parts** in this paper
2. Total marks for this paper : 100 marks (35questions x 2Marks=70Marks)(Practicals -30Marks)
3. Maximum time allowed : **1 hour**

(All questions carry Two mark each)

I. Study the following information carefully and answer the given questions?

A. Identify missing number within the series

10, 22, 46, 94, ?, 382

- 1) 200 2) 189 3) 190 4) 180

B. Identify missing number at the end of the series

1, 4, 9, 16, 25, 36, 49, ?

- 1) 54 2) 64 3) 89 4) 58

2. Study the following information carefully and answer the given question?

F D A % 4 2 # D V ~ L M N \$ 5 2 3 Q W E & ~ X Z ^ 8 J L B 9 @

a) How many such consonants are there in the above arrangement each of which is immediately preceded by a VOWEL and immediately followed by a NUMBER?

- 1) None 2) one 3) two 4) three

b) How many such VOWELS are there in the above arrangement each of which is immediately preceded by a consonant and immediately followed by a symbol?

- 1) None 2) four 3) three 4) two

c) If all the numbers are deleted from the above arrangement then which of the following symbol/ letter will be tenth from the right side?

- 1) E 2) Z 3) D 4) W

d) Which of the following element is fifteenth from the left and seventeenth from the right?

- 1) 5 2) 2 3) 3 4) 2

3. Choose the word which is nearly the **OPPOSITE** in meaning as the word printed in bold:

a) **Vendetta**

- 1) Friendship 2) Revenge 3) Harmony 4) Hostility

b) **Siesta**

- 1) Hard work 2) Sleep 3) Slow poison 4) Winter

4. Choose the word which is nearly the same the **SAME** in meaning as the word printed in bold:

a) **Discrete**

- 1) Clever 2) Planned 3) separate 4) Cautious

b) **Candour**

- 1) Openness 2) Intimacy 3) Enthusiasm 4) Freedom

5. Which language has the maximum number of speakers?

- 1) English 2) Chinese 3) Hindi 4) Spanish

6. SABLA is a:

- 1) Pension plan 2) UN organ 3) scheme for girls 4) child act 1970

7. Which one is the best conductor of electricity?

- 1) Zinc 2) Silver 3) Gold 4) Copper

8. Who is the HRD Minister?

- 1) Smriti Irani 2) Arun Jaitley 3) Sadananda Gowda 4) Arvind Kejriwal

9. Which of the following is the name of the annual military exercise between the Navy of India and the U.S.A ?

- 1) MALABAR 2) VARUNA 3) SIMPLEX 4) BATTLESHIP

10. In which year was NITGoa Established

- 1) 2009 2) 2010 3) 2008 4) 2007

11. Which athlete is known as the Flying Sikh

- 1) Milkha Singh 2) Yuvraj Singh 3) Bhuta Singh 4) Sachin Tendulkar

12. Which of the following device contains IP address?

- 1) Printer 2) Mouse 3) Joystick 4) None of the above

13. How can we identify the live electric wire

- 1) Screw Driver 2) Spanner 3) Tester 4) Hammer

14. What should a person wear in the vicinity of electric equipment?

- 1) cloths 2) shoes 3) Spectacles 4) None of the above

GENERAL APTITUDE

1. Brass gets discoloured in air because of the presence of which of the following gases in air?

- A. Oxygen
B. Hydrogen sulphide
C. Carbon dioxide
D. Nitrogen

2. Who invented the BALLPOINT PEN?

- A. Biro Brothers
B. Waterman Brothers
C. Bicc Brothers
D. Write Brothers

Which is nearest in the meaning of the give words (3- 4)

3. VENT

- | | |
|------------|---------------------|
| A. Opening | B. Stodge |
| C. End | D. Past tense of go |

4. CANNY

- | | |
|--------------|-------------|
| A. Obstinate | B. Handsome |
| C. Clever | D. Stout |

Which is exactly OPPOSITE in meaning to the given words (5 -6)

5. ENORMOUS

- A. Soft
- B. Average
- C. Tiny
- D. Weak

6. Look at this series: 22, 21, 23, 22, 24, 23, ... What number should come next?

- A. 22
- B. 24
- C. 25
- D. 26

7. The members of the Rajya Sabha are elected by

- A. the people
- B. Lok Sabha
- C. elected members of the legislative assembly
- D. elected members of the legislative council

8. Bijapur is known for its

- A. severe drought condition
- B. Gol Gumbaz
- C. heavy rainfall
- D. statue of Gomateswara

9. 'OS' computer abbreviation usually means ?

- A. Order of Significance
- B. Open Software
- C. Operating System
- D. Optical Sensor

10. In which decade with the first transatlantic radio broadcast occur?

- A. 1850s
- B. 1860s
- C. 1870s
- D. 1900s

11. The 2014 World Cup Football Tournament held in

- A. France
- B. China
- C. Germany
- D. Brazil

12. Pythagoras was first to _____ the universal validity of geometrical theorem.

A. Give

B. prove

C. Both

D. None of the above

13. Penicillin is widely used as

A. an antiseptic

B. a disinfectant

C. an antibiotic

D. an insecticide

14. Richter scale is used for measuring

A. density of liquid

B. intensity of earthquakes

C. velocity of wind

D. humidity of air

15. The 2014 Commonwealth Games were held in

A. Scotland

B. UK

C. Australia

D. Malaysia