Roll No. _____ NLCS/12/Fine Arts (049)/22

Pre Board Exam 2024 – 2025

Time Allowed : 2 : 00 Hrs. **Maximum Marks :** 30

Section – A

Q.1 Select the right answer from the given options.

(A) The poem of Kavipriya was written in the honour of ---------- .
(a) Raj Prabin (b) Sahibdin (c) Nihal Chand (d) Jagannath 1

(B) After reading the Assertion (A) and Reason (R). Select the correct codes according to codes given codes –
(a) Both A and R true and R is the correct explanation of A
(b) Both A and R are true, but R is not the correct explanation of A
(c) A is true, but R is False (d) A is False, but R is true
(A) White paint was used in the representation of pearls in Pahari school of Painting.
(R) Pahari Painting originate from the Basohli school of opainting. 1

(C) Babur belonged to which present day country? 1
(a) Uzbekistan (b) Turkmenistan (c) Pakistan (d) Persia

(D) The Hussain Nizam Shah belonged to which kingdom of Deccan region? 1
(a) Ahmadnagar (b) Bijapur (c) Golconda (d) Hyderabad

(E) ---------- is appointed as Principal of Kala Bhavana in 1922. 1
(a) Abanindranath Tagore (b) Abdul Rehaman Chughtai (c) Raja Ravi Verma (d) Nand Lal Bose

(F) Who was the founder of Culcutta grouip in 1943? 1
(a) Gopal Ghose (b) Rathin Moitra (c) P.V.Janakiram (d) Prodosh Das Gupta

(G) The famous contemporary Indian graphics print Devi is made with which technique? 1
(a) Intaglio (b) Etching (c) Lithography (d) Screen painting

(H) The title of the sculopture made by famous contemporary Indian sculptor Amarnath Schgal is ----.
(a) Cries Unheard (b) Chatturmukhi (c) Ganesha (d) Santhal Family

Section – B

(Short Answer type Questions)
Answer for this question is expected around 100 words.

Q.2 Identify any relevant painting included in your course of study comprising of the following features and explain it in that painting accordingly.
"Depiction of the Krishna Lila themes in the Pahari miniature paintings.

OR

Identify any relevant painting included in your course of study comprising of the following features and explain them in that painting accordingly –
"The tendency of composing crowded scenes involving too many forms and figures in the Mughal miniature painting." 2

Q.3 Identify and explain any relevant painting based on the following features of the Bengal School.
The use of "Wash and Tempera Technique" which became the hall mark of the Bengal School of painting.

OR

Identify the relevant painting included in your course of study comprising of these features as –
"The Mughal School of miniature painting was secular, in which Hindu God-Goddesses and Saints were also depicted" and explain them in that painting accordingly. 2

Q.4 Identify any relevant painting included in you course of study comprising of the following features and explain them in that painting accordingly –
"The representation of the landscapic background with typical Deceani hills in the Deceeani miniature paintings? 2

OR

Which high values of human life are incorporated in the Indian National Flag, which are expressed through its forms and colours? What inspiration do you get on seeing our National Flag?

Q.5 Which human live values are shown in the following art works of the contemporary (modern) Indian Art? Explain in short. 2

Santhal Family **OR** Mother Teresa

Q.6 In this painting The brilliance of expressions and command over human anatomy makes the anger of Maryada Purushottam Rama come alive. 2

The depiction of Ocean God frightened by the anger of lord Rama is enhanced by the flashing lighting.

* Identify the painting and the artist of contemporary modern period.
* Using aesthetic parameters explain this painting based on theme of Valmiki Ramayana.

OR

Evaluate the artistic achievements of the contemporary (Modern) Indian artist Jyoti Bhatt (Graphic artist) with special reference to his art work included in your course of study

Section – C

Attempt any two questions from the given options (Long Answer Type Questions)
Answer for this Question is expected in around 200 words.

Q.7 Identify the picture based on the love story and the musical hymns prevalent in the desert, which is associated with folklore of "Dhola –Maru" in present times also and is narrated with great emotional sentiments. 6

* Name and explain the painting in detail, describing about the difference between the status of human forms painted.
* Throw light on its artist name, sub-school and its painting style.
* Write any four main aesthetical qualities of the painting which you admire?

Q.8 During the Mughal period which emperor was liberal in his religious beliefs, and his governing period was known as the "Golden Age for secular themed paintings. 6

* How did he promote the belief of secularism through paintings?
* Identify the famous painting made by using the image of a Hindu God which promoted secular belief associated with this Mughal emperor, mention the name of the art work. Its artist and medium.
* Explain how this painting is a perfect example of secularism and religious unity?

Q.9 Identify the artwork printed below and describe in detail about this painting related to Rajasthani style in your own words? Support your answer with the following parameters.

* Name of its artist and the painting characteristic of Rajasthani School used in making it.
* The subject matter depicted in it and the message which `````````````````` derive while observing and admiring this painting.

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Roll No. _____ NLCS/12/Physical Education (048)/45

Pre Board Exam 2024 – 2025

Time Allowed : 3 : 00 Hrs. **Maximum Marks :** 70

General Instructions :

(i) The Questions paper consists of 5 Sections and 37 Questions.

(ii) **Section – A** consists of Question 1to 18 carrying 1 Mark each and is Multiple Choice Question. All Questions are compulsory.

(iii) **Section – B** consists of Questions 19 to 24 carrying 2 Marks each and are Very Short Answer Types and should not exceed 60 –90 words. Attempt any 5.

(iv) **Section – C** consist of Question 25 to 30 carrying 3 Marks each and are Short Answer Types and should not exceed 100-150 words. Attempt any 5.

(v) **Section – D** consists of Question 31to 33 4 Marks each and are care studies. There is Internal choice available.

(vi) **Section – E** consists of Question 34 to 37 carrying 5 Marks each and are Long Answer Types and should not exceed 200-300 words attempt any 3.

Section – A

Q.1 Jung classified most of the people as –

(a) Extraverts (b) Amibverts (c) Mesomorphs (d) Introverts

Q.2 What is the test duration for the Arm curt test.

(a) 1 min. (b) 2min. (c) 30 Sce. (d) Number of repetitions

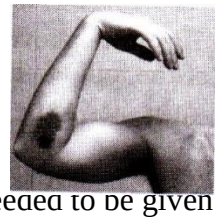
Q.3 Who developed the Harvard step test?

(a) Muller (b) Miller (c) Brouha (d) Jackson

Q.4 What is the height of the box used by boys in Harverd ste[p test?

(a) 16 inch (b) 18 inch (c) 20 inch (d) 22 inch

Q.5 Identify the given injury.



(a) Contusion (b) Abrasion

(c) Laceration (d) Incision

Q.6 If 17 teams are participating then how many byes are needed to be given in a single knockout tournament.

(a) 16 (b) 15 (c) 14 (d) 17

Q.7 Vitamin B_3 is commonly known s :

(a) Thiamin (b) Riboflavin (c) Niacin (d) Pyridoxine

Q.8 The method which uses the momentum of a moving body or limb in an attempt to force it beyond its normal range of motion is known as ---------- .

(a) Ballistic stretching method (b) PNF stretching method

(c) Dynamic stretching method (d) static active stretching

Q.9 Identify the Yoga asana below :

(a) Katichakrasana (b) Pavanamuktasana (c) Tadasana (d) Halasana

Q.10 Unintentional Physical harm is known as ---------- .

(a) Hostile aggression (b) Instrumental aggression (c) Negative aggression (d) None of these

Q.11 Given below are two statement labeled as Assertion (A) and Reason (R).

Assertion (A) :Rush ups help in building muscular strength.

Reason (R) : Rush ups are isokinetic muscular movements that provide strength to the joints.

In context of above two statements, which are of the following is correct?

(a) Both A and R are true, but R is not the correct explanation of A

(b) Both A and R are true, but R is not the correct explanation of A

(c) A is true, but R is False (d) A is false, but R is true

Q.12 Which year is declared as the year of 'Special Olympic' by the united Nation?

(a) 1986 (b) 1987 (c) 1988 (d) 1989

Q.13 Newton's first law of motion is applicable in all these sports except -------- .

(a) Soft ball (b) Soccer (c) Dance (d) Baseball

Q.14 Fast twitch fibers are known as ---------- fibers and slow twitch fibers are known as ------- fibers.

(a) Yellow, white (b) White, red (c) Red, Yellow (d) None of these

Q.15 All the following are Macro nutrients, except.

(a) Carbohydrates (b) Fats (c) Vitamins (d) Proteins

Q.16 Match the following :

(A) Short term Endurance	(i)	Marathon
(B) Speed endurance	(ii)	400 m Sprint Race
(C) Medium term Endurance	(iii)	800 m Race
(D) Long-term Endurance	(iv)	1500m Race

(a) A-3, B-2, C-4, D-1 (b) A-2, B-1, C-4, D-3 (c) A-4, B-2, C-1, D-3 (d) A-1, B-3, C-2, D-4

Q.17 Sprain is an injury of the ------- .

(a) muscle (b) ligament (c) joint (d) bone

Q.18 Continuous training was developed by ---------- .

(a) Dr. Van Aaken (b) O Astrand (c) Gosta Holmer (d) Greshler

Section – B

Q.19 What do you understand by 'Big Five Theory'?

Q.20 Write the application of Newton's second law of motion in sports.

Q.21 What do you understand by reaction speed?

Q.22 What is the effed of exercise on muscles? List any four. Discuss why does involvement in regular exercise delay the onset of Fatigue?

Q.23 What do you understand by centralling?

Q.24 What are the advantages of physical activities for children with special needs (CWSW)?

Section – C

Q.25 Briefly explain any three common soft tissue injuries.

Q.26 What is lever? Write its component and types?

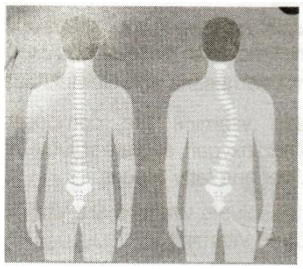
Q.27 What do you understand by (Yoga) write its importance. Give two example of Yoga.

Q.28 What is the usefulness of Back scratch test for senior citizen? Describe how it is quantitatively measured? Give two more example of senior citizen tests,

Q.29 Why do players show hostile aggression on the field? Enlist test.

Q.30 Briefly explain interval training method. State its advantages and disadvantages.

Section – D



Q.31 On the basis of picture given below, Answer the following Questions :

(a) Identify the postural deformity in the given figure

(b) It is a ---------- curvature of the spine

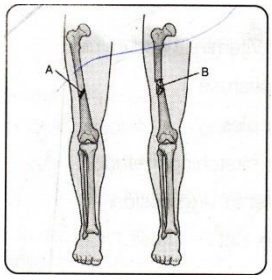
(c) Mention any two causes for the same

(d) Yoga asanas such as ------- are useful for treating the deformity.

OR

Mention any two precautions of this deformity.

Q.32 One the basis of the picture given below, Answer the following Questions.



(a) Identify the type of fractures

(b) Which of the two is more prone to angulation in the plane of the fracture

(c) A hard tissue injury is also known as ------- .

(d) What are the cause of fracture 'A'?

OR

Why the fracture 'B' is challenging?

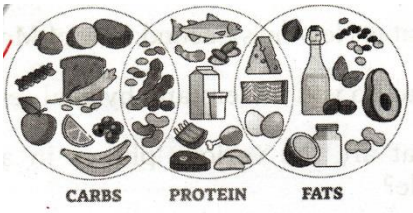
Q.33 On the basis of the picture given below, Answer the following Questions.

(a) Carbohydrates proteins and fats together make up nutrients

(b) Fats contain 76 percent of -------12 percent of -------- and 12 percent of ---------- .

(c) List any two sources of simple and complex carbohydrate each

(d) ---------- are the basis constituents of our cells



Section – E

Q.34 Explain any five different types of coordinative abilities.

Q.35 Suggest the formation of various committees for systematic and smooth conduct of the annual sport day in your school.

Q.36 Define and explain personality. Discuss the role of sports. In personality development.

Q.37 Deepak wants to access the physical fitness of all the elderly people of his Family suggest which test should be conducted by him? Explain the test.

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Roll No. _____ NLCS/12/Mathematics Applied(241)/08

Pre Board Exam 2024 – 2025

Time Allowed : 3 : 00 Hrs. **Maximum Marks :** 80

General Instructions :

(i) This Question paper contains five Sections A, B, C, D and E. Each Section is compulsory.

(ii) **Section – A** carries 20 Marks weightage. Section – B carries 10 marks weightage. Section – C carries 18 marks weightage, Section – D carries 20 marks weightage and Section – E carries Case Based with total weightage of 12 marks.

(iii) **Section – A** comprises of 20 M.C.Qs of 1 mark each.

(iv) **Section – B** comprises of 5 V.S.A. types Questions of 2 marks each.

(v) **Section – C** comprises of 6 S.A. type Question of 3 marks each.

(vi) **Section – D** comprises of 4 L.A. type Question of 5 marks each.

(vii) **Section – E** has 3 case studies. Each case study comprises of 3 Case Based Questions, where 2 V.S.A. type Question of 1 mark each and L.S.A. type Question of 2 marks.
Internal Choice is provided in 2 marks Questions in each case-study.

(viii) Internal Choice is provided in 2 Questions in Section – B, 2 Question in Section – C, 2 Questions in Section – D. You have to attempt only one of the alternatives in all such Questions.

Section – A

All Questions are compulsory. No internal choice is provided in this Section.

Q.1 The smallest non-negative integer congruent to 2796 (mod7) is–

(a) 4 (b) 2 (c) 5 (d) 3

Q.2 If $-3 \le 4 - \frac{7x}{2} \le 18$, then –

(a) $x \in (\infty, -4]$ (b) $x \in [-4, \infty)$ (c) $x \in [-4, 2]$ (d) $x \in [2, \infty)$

Q.3 The declared rate of return compounded semi-annually which is equivalent to 10.25% effective rate of return is –

(a) 10.13% (b) 10.05% (c) 10% (d) 9.89%

Q.4 mixture of 150L of wine and water contains 20% water. The amount of water which should be added so the water becomes 25% of the new mixture is –

(a) 8L (b) 10L (c) 12L (d) 14 L

Q.5 If $A = \begin{bmatrix} 4 & x+2 \\ 2x-3 & x+1 \end{bmatrix}$ is symmetric, then what is the value of x?

(a) 2 (b) 3 (c) –1 (d) 5

Q.6 The area of the triangle, whose vertices are (3,8), (–4,2) and (5,1) is –

(a) 60sq units (b) 61sq units (c) $\frac{61}{2}$ sq units (d) 30 sq units

Q.7 A coin is tossed 4 times. The probability of getting at least 1 head is –

(a) $\frac{1}{16}$ (b) $\frac{1}{8}$ (c) $\frac{7}{8}$ (d) $\frac{15}{16}$

Q.8 The value of $\int \frac{1}{x(5+\log x)} dx$ is –

(a) $\frac{1}{5}\log|5+\log x| + c$ (b) $5\log|5+\log x| + c$ (c) $\sqrt{5+\log x} + c$ (d) $\log|5+\log x| + c$

Q.9 A machine costing ₹ 50,000 has a useful life of 4years. The estimated scrap value is ₹ 10,000. The rate of depreciation per annum –

(a) 20% (b) 30% (c) 25% (d) 15%

Q.10 A random variable 'x' has the following distribution –

x	0	1	2	3	4	5	6	7
P(x)	k	k	2k	3k	K^2	$2k^2$	$7k^2$	2k

The value of k is :

(a) –1 (b) $-\frac{1}{10}$ (c) 1 (d) $\frac{1}{10}$

Q.11 For a random variable $x, E(x)=3$ and $E(x^2)=11$. Then variance of x is –

(a) 8 (b) 5 (c) 2 (d) 1

Q.12 The function $f(x)=x^4-4x$ is strictly–

(a) decreasing $[1,\infty)$ (b) increasing in $(1,\infty)$ (c) increasing in $(-\infty,1)$ (d) increasing in $(-1,1)$

Q.13 The time series analysis helps –

(a) to make predictions (b) to compare the two or more series
(c) to know the behavior of business (d) All of the Above

Q.14 Random sampling is useful as it is –

(a) Reasonably more accurate as compared to other methods (b) Economical in nature
(c) Free from personal biases of the investigator (d) All of the Above

Q.15 The degree of the differential equation $\left[\frac{d^2y}{dx^2}\right]^2+\left[\frac{dy}{dx}\right]^2=x\sin\left[\frac{dy}{dx}\right]$ is –

(a) 1 (b) 2 (c) 3 (d) Not defined

Q.16 If the null hypothesis is false, then which of the following is accepted –

(a) Alternate hypothesis (b) Null hypothesis (c) Negative hypothesis (d) Positive hypothesis

Q.17 The variable x and y in a linear programming problem are called –

(a) division variables (b) linear variables (c) Optimal variables (d) None of these

Q.18 In a 100m race, A runs at a speed of $\frac{5}{6}$ m/s. If A gives a start of 4m to B and still beats him hy 12s. Then, the speed of B is –

(a) $\frac{5}{4}$ m/s (b) $\frac{7}{5}$ m/s (c) $\frac{4}{3}$ m/s (d) $\frac{6}{5}$ m/s

Directions : Question Number 19 and 20 are Assertion and Reasoning.

(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A
(c) A is true but R is false
(d) A is false but R is true

Q.19 Assertion (A) :In 30 L mixture of Acid, the ratio of acid and water is 2 : 3. The amount of water should be added to the mixture so that the ratio of acid and water becomes 2 : 5 is 12 L.

Reason (R) : Mean price is always lesser than cost price of cheaper quantity and higher than the cost price of dearer quantity.

Q.20 Assertion (A) :If x is real, then the minimum value of $x^2-8x+17$ is 1.

Reason (R) : If $f''(x)>0$ at critical point, then the value of the function at critical point will be the minimum value of the function.

Section – B

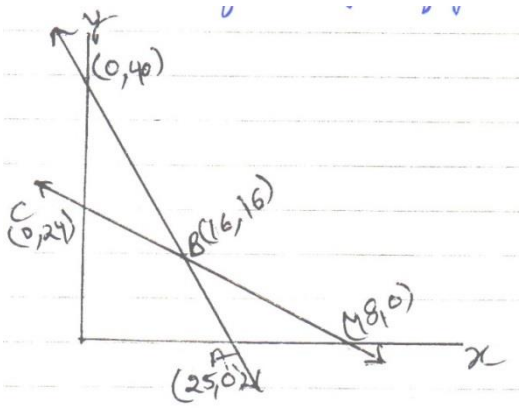
All question are compulsory. In case of internal choice, attempt any one question only.

Q.21 A top can fills an empty tank in 12h and a leakage can empty the tank in 20h. If tap and leakage bath work together, then find the time taken to fill the tank.

OR

Find the last digit of 12^{12}.

Q.22 Find the maximum value of $z=4x+3y$, if the feasible region for an LPP is shown in following figure.



Q.23 Consider the following hypothesis tests

$H_0:\mu=2; H_0:\mu\neq 22$

A sample of 65 provided a sample mean, $x=20$ and sample standard deviation S=6.4. compute the value of test statistic.

Q.24 Solve the integral $\int_0^1 x(1-x)^n\,dx$, by using the property of definite integral.

OR

Evaluate : $\int\sqrt{x^2+4x+6}dx$.

Q.25 At what rate of interest will the present value of ₹ 300 payable at the end of each quarter by ₹24,000.

Section – C

Q.26 Find the matrix x for which $\begin{bmatrix}5 & 4\\ 1 & 1\end{bmatrix}x=\begin{bmatrix}1 & -2\\ 1 & 3\end{bmatrix}$.

Q.27 A person buys a house for which be agrees to pay ₹ 25,000 at the end of each month for 8 years. If money is worth 12% converted monthly, what is the cash price of house? [given $[1.01]^{-96}$=0.3847]

Q.28 In a binomial distribution, the sum of tis mean and variance is 1.8 find the probability of two success if the event was conducted 5 times.

OR

Two biased dice are thrown together for the first die $P(6)=\frac{1}{2}$ the other scores being equally likely while for the second die $P(1)=\frac{2}{5}$ and the other scores are equally likely. Find the probability distribution of 'the number of one's seen.

Q.29 A monopolistic demand function for one of its product is $p(x)=ax+b$. He knows that be can sell 1400 unit when the price ₹ 4 per unit and he can sell 1800 unit at a price of ₹ 2 per unit. Find marginal revenue function.

OR

A manufacture's marginal Revenue function is given by MR= $275-x-0.3x^2$. Find the increase in manufactures' total increase in revenue, if the production is increased from 10 to 20 units.

Q.30 Find the general solution of $\log\left(\frac{dy}{dx}\right)=3x+4y$.

Q.31 A person invested of ₹15,000 in a mutual fund and the value of investment at the time of redemption was ₹ 25,000. If CAGR for this investment is 8.88% calculate the time period for which the amount was invested? [log (1.667) = 0.2219 and log (1.089)=0.037]

Q.32 The table given below shows the daily attendance in thousand at a certain exhibition over a period of two weeks.

Week 1	52	48	64	68	52	70	72
Week 2	55	41	61	65	58	75	81

Calculate seven day moving averages and illustrate these and original information on the same graph using the same scales.

Q.33 The sum of three number is 20. If we multiply the first number by 2 and odd the second number to result and subtract the third number we get 23. By adding second and third number to three times the first number, we get 45. Represent the above problem algebraically and us creamer's rule to find the number of those equations.

OR

If $A=\begin{bmatrix}1 & -1 & 0\\ 2 & 3 & 4\\ 0 & 1 & 2\end{bmatrix}$ and $B=\begin{bmatrix}2 & 2 & -4\\ -4 & 2 & -4\\ 2 & -1 & 5\end{bmatrix}$.

Find AB, use this to solve the system of equations $x-y=3, 2x+3y+4z=17$ and $y+2z=7$.

Q.34 A person borrows ₹ 68962 on the condition that he will repay money with compound interest at 45% per annum in 4 equal annual installment the first one being payable at the end of the first year. Find the value of each installment. [given $(1.05)^{-4}=0.8227$]

Q.35 Solve the following LPP graphically maximum $z=3x+2y$. Subject to constraints are :

$x+2y\leq, 3x+y\leq 15$ and $x\geq 0, y\geq 0$.

Also, determine the area of the feasible Region.

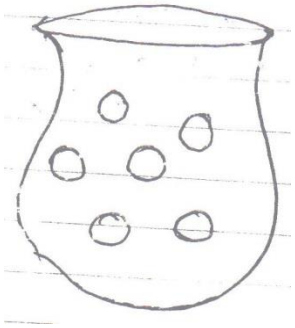
OR

Find the maximum value of z for the problem maximize $z=2x+3y$. Subject to contraints are :

$x+2y\leq 10, 2x+y\leq 14, x, y\geq 0$.

SECTION – E

Q.36 An urn contains 25 balls of which 10 balls bear a mark x and remaining 15 bear a mark y. A ball is drawn at Random from the urn, its mark noted down and it is Replace. In this way 6 balls are drawn.



Based on the above information, answer the following questions :

(i) Find the probability that all balls will bear x marks. 1

(ii) Find the probability that all balls will not bear x marks. 1

(iii) Find the probability that at most 2 balls will bear mark y. 2

OR

Find the probability that at least 2 balls will bear marks y.

Q.37 There are 24 H in a day. These are mainly two types of clocks used 12h clock and 24H clock repeat itself twice in a day i.e. 24H of a day are divided into two periods called AM 12 (acting as 0) 1,2,3,4,5,6,7,8,9,10,11, Then, 24H per day cycle start at 12 mid night (usually indicated as 12pm) and continues before mid-night at the end of the day.

Based on the above information, answer the following questions.

(i) It is currently 6:00pm in 12h clock. What is the time after 375h. 1

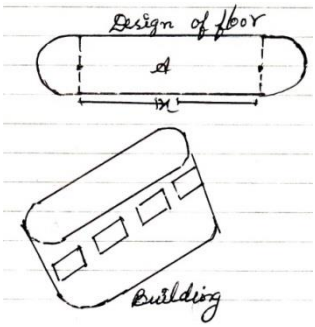
(ii) What time is 24H clock in equivalent to 5:00 pm in 12h clocks. 1

(iii) If the time after 490h from now will be 7.00. Then, what is current time. 2

OR

What time in 12h clock is equivalent to 22:00 in 24h clock? 2

Q.38 An architect designs a building for a multinational company. The floor consists of a rectangular region with semi-circular ends having a per meter of 200 m as shown below.



Based on the above information answer the following.

Find the maximum value of area A.

OR

The CEO of the multi-national company is interested in maximizing the area of the whole floor including the semi-circular ends. For this to happen. Find the value of x.

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Roll No. _____ NLCS/12/Computer Science(083)/13

Pre Board Exam 2024 – 2025

Time Allowed : 3 : 00 Hrs. **Maximum Marks :** 70

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A has 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.

Section A

Q.1 State True or False
"break keyword skips remaining part of an iteration in a loop and compiler goes to starting of the loop and executes again"

Q.2 Find the valid keyword from the following?
a) Student-Name b) False c) 3rdName d) P_no

Q.3 What will be the output for the following Python statement?
X={'Sunil':190, 'Raju':10, 'Karambir':72, 'Jeevan':115}
print('Jeevan' in X, 190 in X, sep="#")
(a)True#False (b) True#True
(c) False#True (d) False#False

Q.4 Consider the given expression: **True and False or not True**
Which of the following will be correct output if the given expression is evaluated?
(a) True (b) False (c) NONE (d) NULL

Q.5 Select the correct output of the code:

```
a = "Python! is amazing!"
a = a.split('!')
b = a[0] + "." + a[1] + "." + a[2]
print (b)
```

(a)Python!. is amazing!. (b)Python. is amazing.
(c)Python. ! is amazing.! (d)will show error

Q.6 Which of the following mode in file opening statement overwrite the existing content?
(a) a+ (b) r+ (c) w+ (d) None of the above

Q.7 The attribute which have properties to be as referential key is known as.
(a) foreign key (b)alternate key (c) candidate key (d) Both (a) and (c)

Q.8 Which command is used to change some values in existing rows?
(a) CHANGE (b) MODIFY (c)ALTER (d) UPDATE

Q.9 Which of the following statement(s) would give an error after executing the following code?

```
Q="Humanity is the best quality"  # Statement1
print(Q)                         # Statement2
Q="Indeed."                      # Statement3
Q[0]= '#'                        # Statement4
Q=Q+"It is."                     # Statement5
```

(a) Statement 3 (b) Statement 4 (c)Statement 5 (d)Statement 4 and 5

Q.10

```
p=150
def fn(q):
    _____    #missing statement
p=p+q
fn(50)
print(p)
```

Which of the following statements should be given in the blank for #missing statement if the output produced is 200
(a) global p=150 (b) global p (c) p=15 (d) global q

Q.11 Which function is used to split a line of string in list of words?

(a)split( ) (b) splt( ) (c) split_line( ) (d) all of these

Q.12 What possible output(s) will be obtained when the following code is executed import random
k=random.randint(1,3)
fruits=['mango', 'banana', 'grapes', 'water melon', 'papaya']
for j in range(k):
print(j, end="*")
(a) mango*banana*grapes (b) banana*grapes
(c) banana*grapes*watermelon (d) mango*grapes*papaya

Q.13 Fill in the blank:
_____is a communication protocol responsible for sending emails.
(a) TCP (b) SMTP (c) PPP (d)HTTP

Q.14 What will be the ouput when following expression be evaluated in Python?
print(21.5 // 4 + (8 + 3.0))
(a) 16 (b)14.0 (c) 15 (d) 15.5

Q.15 Which of the following functions other than close() writes the buffer data to file
(a) push() (b) write() (c) writeBuffer() (d) flush()

Q.16 To get counting of the returned rows, you may use…….
(a) cursor.rowcount (b) cursor.count
(c) cursor.countrecords() (d) cursor.manyrecords()

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as
(a) Both A and R are true and R is the correct explanation for A
(b) Both A and R are true and R is not the correct explanation for A
(c) A is True but R is False
(d) A is false but R is True

Q.17 Assertion (A):- If the arguments in function call statement are provided in the format parameter=argument, it is called keyword arguments.
Reasoning (R):- During a function call, the argument list first contain keyword argument(s) followed by positional argument(s).

Q.18 Assertion (A): CSV (Comma Separated Values) is a file format for data storage with one record on each line and each field is separated by comma.
Reason (R): The format is used to share data between cross platform as text editors are available on all platforms.

Section B

Q.19 Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code.

```
Num=int(rawinput("Number greater than 10 :"))
sum=0
for i in range(10,Num,3)
        sum+=1
        if i%2=0:
                print(i*2)
        else:
              print(i*3)
  print(sum)
```

Q.20 Write one advantage and one disadvantage of packet switching

OR

Which language is the most suitable language to create web pages?

Q.21 (a) Given is a Python string :
X="NEW LOOK CENTRAL SCHOOL"
Write the output of: **print(X[4:9]*2)**
(b) Write the output of the python program code given below:

```
hello = {empname: ''Ishan'', address: "New Delhi", salary: 10000}
hello[salary] = 15000
hello[address] = ''Delhi''
print(hello.keys())
```

Q.22 Explain the use of GROUP BY clause in a Relational Database Management System. Give example to support your answer.

Q.23 (a) Write the full forms of the following:
(i)POP3 (ii) VoIP
(b) Define RJ-45?

Q.24 Predict the output of the Python code given below:

```
def Alter (P=15,Q=10):
        P=P*Q
        Q=P/Q
        print(P,"#",Q)
        return Q
A=100
B=200
A=Alter(A,B)
print(A,"$",B)
A=Alter(A)
print(A,"$",B)
```

OR

Predict the output of the Python code given below:

```
a=tuple()
a=a + tuple('Python')
print(a)
print(len(a))
b=(10,20,30)
print(len(b))
```

Q.25 Differentiate Where and Having clause in SQL with example.

OR

Define aggregate function and give example.

Section C

Q.26 (a) Consider the following tables – Employee and Office:

Table: Emp

Emp_Id	Name	Salary
E01	Lakshya	54000
E02	Ravi	NULL
E03	Neeraj	32000
E04	Brijesh	42000

Table: dept

Emp_Id	Dept	DOJ
E01	Computer	05-SEP-2007
E02	Physics	05-JAN-2008
E03	Sports	30-DEC-2000
E04	English	05-SEP-2012

What will be the output of the following statement?
(a)SELECT Name, Dept FROM Emp E, dept d WHERE E.Emp_Id=d.Emp_Id;
(b) Consider the following tables SCHOOL and ADMIN. Give the output the following SQL queries:

Table : Student

Code	Teacher	DOJ	Subject	Periods	Experience
1001	Ravi Shankar	12/3/2000	English	24	10
1009	Priya Rai	03/09/1998	Physics	26	12
1203	Lis Anand	09/04/2000	English	27	5
1045	Yashraj	24/08/2000	Maths	24	15
1123	Ganan	16/7/1999	Physics	28	3
1167	Harish B	19/10/1999	Chemistry	27	5
1215	Umesh	11/05/1998	Physics	22	16

Table : Admin

Code	Gender	Designation
1001	M	Vice Principal

1009	F	Coordinator
1203	F	Coordinator
1045	M	HOD
1123	M	Senor Teacher
1167	M	Senor Teacher
1215	M	HOD

(i) SELECT Designation, COUNT (*) FROM Admin GROUP BY Designation HAVING COUNT (*) <2;
(ii) SELECT TEACHER FROM SCHOOL WHERE EXPERIENCE >12 ORDER BY TEACHER DESC;

Q.27 Write a method **beginA()** in Python to read lines from a text file Notebook.TXT, and display those lines, which are starting with 'A'.
For example If the file content is as follows:
An apple a day keeps the doctor away.
We all pray for everyone's safety.
A marked difference will come in our country.
The beginA() function should display the output as:
An apple a day keeps the doctor away.
A marked difference will come in our country.

OR

A text file "PYTHON.TXT" contains alphanumeric text. Write a program that reads this text file and writes to another file "PYTHON1.TXT" entire file except the numbers or digits in the file.

Q.28 (a) Write the outputs of the SQL queries (i) to (iv) based on the relations CLUB and **STUDENT given below**:

Table : CLUB

COACHID	CNAME	AGE	SPORTS	DATEOFAPP	PAY	GENDER
1	KUKREJA	35	KARATE	27/03/1996	1000	M
2	RAVINA	34	KARATE	20/01/1998	1200	F
3	KARAN	34	SQUASH	19/02/1998	2000	M
4	TARUN	33	BASKETBALL	01/01/1998	1500	M
5	ZUBIN	36	SWIMMING	12/01/1998	750	M
6	KATAKI	36	SWIMMING	24/02/1998	800	F
7	ANKITA	39	SQUASH	20/02/1998	2200	F
8	ZAREEN	37	KARATE	22/02/1998	1100	F
9	KUSH	41	SWIMMING	13/01/1998	900	M
10	SHAILYA	37	BASKETBALL	19/02/1998	1700	M

Table : STUDENT

COACHID	SNAME	STIPEND	STREAM	MARKS	GRADE	CLASS
1	KARAN	400.00	MEDICAL	78.5	B	12B
12	VINNET	450.00	COMMERCE	89.2	A	11C
13	VIVEK	300.00	COMMERCE	68.6	C	12C
4	DHRUV	350.00	HUMANITIES	73.1	B	12C
15	MOHIT	500.00	NONMEDICAL	90.6	A	11A
6	ANUJ	400.00	MEDICAL	75.4	B	12B
17	ABHAY	250.00	HUMANITIES	64.4	C	11A
18	PAYAL	450.00	NONMEDICAL	88.5	A	12A
19	DIKSHA	500.00	NONMEDICAL	92.0	A	12A
10	RISHIKA	300.00	COMMERCE	67.5	C	12C

(i) SELECT SPORTS, MIN(PAY) FROM Club Group by SPORTS ;
(ii) SELECT MAX(DATEOFAPP), MIN(DATEOFAPP) FROM CLUB;
(iii) SELECT CNAME, PAY, C.COACHID, SPORTS FROM CLUB C, STUDENT S WHERE

C.COACHID =S.COACHID AND PAY>=1500;

(iv) SELECT SName, CNAME FROM Student S, CLUB C
WHERE Gender ='F' AND C.COACHID=S.COACHID;

(b) Write SQL command to list all databases.

Q.29 Write a function shiftn(L,n), where L is a list of integers and n is an integer. The function should return a list after shifting n number of elements to the left.
Example: If the list initially contains [2, 15, 3, 14, 7, 9, 19, 6, 1, 10] and n=2
then function should return [3, 14, 7, 9, 19, 6, 1, 10, 2, 15]
If the list initially contains [2, 15, 3, 14, 7, 9, 19, 6, 1, 10] and n=4
then function should return [7, 9, 19, 6, 1, 10, 2, 15, 3, 14]

Q.30 A nested list contains the data of visitors in a museum. Each of the inner lists contains the following data of a visitor:
[V_no (int), Date (string), Name (string), Gender (String M/F), Age (int)]
Write the following user defined functions to perform given operations on the stack named "status":
(i)Push_element(Visitors) - To Push an object containing Gender of visitor who are in the age range of 15 to 20.
(ii) Pop_element() - To Pop the objects from the stack and count and display the number of Male and Female entries in the stack. Also, display "Done" when there are no elements in the stack.

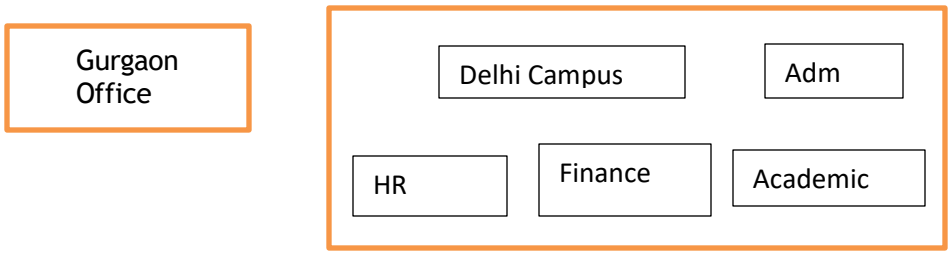
For example: If the list of Visitors contains:
[['305', "10/11/2022", "Geeta","F", 35],
['306', "10/11/2022", "Arham","M", 15],
['307', "11/11/2022", "David","M", 18],
['308', "11/11/2022", "Madhuri","F", 17],
['309', "11/11/2022", "Sikandar","M", 13]]
The stack should contain
F
M
M
The output should be:
Female: 1
Male: 2
Done

OR

Write a function in Python, Push(EventDetails) where , EventDetails is a dictionary containing the number of persons attending the events– {EventName: NumberOfPersons}.
The function should push the names of those events in the stack named 'BigEvents' which have number of persons greater than 200. Also display the count of elements pushed on to the stack.
For example:
If the dictionary contains the following data:
EventDetails ={"Marriage":300, "Graduation Party":1500, "Birthday Party":80,
"Get together" :150}
The stack should contain:
Marriage
Graduation Party
The output should be:
The count of elements in the stack is 2

Section D

Q.31 Ripunjay is planning to connect its Delhi Campus with its head office at Goregaon. Its Delhi Campus is spread across an area of approx. 1 square kilometers consisting of 3 blocks. HR, Acad and Adm. You as a network expert have to suggest answers to the five queries (i) to (v) raised by them



Shortest distances between various blocks

HR to Adm →	120m
HR to Acad→	75m
Acad to Adm →	130m
HR to Finance →	70m
Finance to Adm →	90m
Goregaon to Delhi Campus →	50 km

Number of computers installed at various blocks

Block	Number of Computers
HR	250
Adm	30
Acad	70
Finance	20
Goregaon	20

(i)Suggest the most suitable block in the Delhi Campus to host the server. Give a suitable reason with your suggestion.
(ii)Suggest the cable layout among the various blocks within the Delhi Campus for connecting the blocks.
(iii)Suggest the placement of the following devices with appropriate reasons:
(a) Switch / Hub (b).Repeater
(iv) Suggest a protocol that shall be needed to provide Video Conferencing solution between Goregaon Office and Delhi campus.
(v)Suggest the type of network to connect Goregaon Office and Delhi campus.

Q.32 (a) Write the output of the code given below:

```
a=5
def add(b=2):
   global a
   a=a+b
   print(a,'#',b)
   return a
b=add(a)
print(a,'#',b)
b=add(b)
print(a,'#',b)
```

(b) The code given below inserts the following record in the table Employee:
EmpNo – integer Name – string
Department – string Salary – integer
Note the following to establish connectivity between Python and MYSQL:

- Username is root
- Password is brick
- The table exists in a MYSQL database named organization.
- The details (EmpNo, Name, Department and Salary) are to be accepted from the user.

Write the following missing statements to complete the code:
Statement 1 – to form the cursor object
Statement 2 – to execute the command that inserts the record in the table Student.
Statement 3- to add the record permanently in the database

```
import mysql.connector as mysqldef
sql_data():
        con=mysql.connect(host="localhost",user="root",password="brick",
        database="organization")
        mycursor=_____          #Statement 1
        eno=int(input("Enter Employee number :: "))
        name=input("Enter Name :: ")
        dept=input("Enter Department name :: ")
        sal=int(input("Enter Salary :: "))
        query="insert into student values({},'{}',{},{})".format(eno,name,dept,sal)
        _____                   #Statement 2
        _____                   # Statement 3
        print("Data Added successfully")
```

OR

(a) Predict the output of the code given below:

```
a="Give me a glass of water!"
```

```
n =len(a)
b=" "
for i in range(0, n):
    if a[i] >= 'a' and a[i] <= 'k':
        b = b + a[i].upper()
    elif (a[i] >= 'l' and a[i] <= 'z'):
        b = b + a[i-1]
    elif   a[i].isupper():
        b = b + a[i].lower()
    else:
        b = b + '#'
print(b)
```

(b) The code given below reads the following record from the table named items and displays only those records who have price greater than 100:

ItemNo –integer
Name – string
Price – integer

Note the following to establish connectivity between Python andMYSQL:

- Username is root
- Password is epic
- The table exists in a MYSQL database named **store.**

Write the following missing statements to complete the code:
Statement 1 – to form the cursor object
Statement 2 – to execute the query that extracts records of items with price greater than 100.
Statement 3 - to read the complete result of the query (records whose marks are greater than 75) into the object named data, from thetable studentin the database.

```
import mysql.connector as mysqlcon
def sql_data():
    con=mysqlcon.connect(host="localhost",user="root",password="epic",
    database="store")
    mycursor=_____# Statement 1
    print("Items with price greater than 100 are :")
    _____# Statement 2
    data=_____# Statement 3
    for i in data:
        print(i)
```

Q.33 (a) What is the advantage of using a csv file for permanent storage?

b) Write a python program to create a csv file dvd.csv and write 10 records in it Dvdid, dvd_name, qty, price.Display those dvd details whose dvd price is more than 25.

OR

(a) Write difference between a binary file and a csv file.

(b) Write a Program in Python that defines and calls the following user defined functions:

(i) **add() –** To accept and add data of an employee to a CSV file 'empdata.csv'. Each record consists of a list with fieldelements as eid, ename and salaryto store empid, emp name and emp salary respectively.

(ii) search()- To display the records of the emp whose salary is more than 10000.

Section E

Q.34 Mubarak creates a table Items with a set of records to maintain the details of items. After creation of the table, he has entered data of 5 items in the table.

Table: items

ItemNo	Item	Scode	Qty	Rate	LastBuy

2005	Sharpener Classic	23	60	8	31-JUN-09
2003	Balls	22	50	25	01-FEB-10
2002	Gel Pen Premium	21	150	12	24-FEB-10
2006	Gel Pen Classic	21	250	20	11-MAR-09
2001	Eraser Small	22	220	6	19-JAN-09

Based on the data given above answer the following questions:

(i) Identify the most appropriate column, which can be considered as Primary key.

(ii) If 3 columns are added and 2 rows are deleted from the table , what will be the new degree and cardinality of the above table?

(iii) Write the statements to:

(a) Insert the following record into the table as (2024, Point Pen, 20, 11, 350, 15-NOV-2022).

(b) Increase the rate of the items by 2% whose name ends with 'c'.

OR

(iii) Write the statements to:

(a) Delete the record of items having rate greater than equal to 10.

(b) Add a column REMARKS in the table with datatype as varchar with 50 characters

Q.35 Anamika is a Python programmer. She has written a code and created a binary file **data.dat** with sid, sname and marks. The file contains 10 records. She now has to update a record based on the sid entered by the user and update the marks. The updated record is then to be written in the file **extra.dat**. The records which are not to be updated also have to be written to the file extra.dat. If the sid is not found, an appropriate message should to be displayed. As a Python expert, help him to complete the following code based on requirement given above:

```
import _____                                    #Statement 1
def update_data():
    rec={}
    fin=open("data.dat","rb")
    fout=open("_____")                          #Statement 2
    found=False
    eid=int(input("Enter student id to update their marks :: "))
    while True:
        try:
            rec= _____                          #Statement 3
            if rec["student id"]==sid:
                    found=True
                    rec["marks"]=int(input("Enter new marks:: "))
             pickle._____                       #Statement 4
        except:
            break
    if found==True:
        print("The marks of student id ",sid," has been updated.")
    else:
        print("No student with such id is not found")
    fin.close()
    fout.close()
```

(i) Which module should be imported in the program? (Statement1)

(ii) Write the correct statement required to open a temporary file named extra.dat. (Statement 2)

(iii) Which statement should Anamika fill in Statement 3 to read the data from the binary file, data.dat and in Statement 4 towrite the updated data in the file, **extra.dat**?

****