St. Mary's School, Dwarka
Holiday Homework
Class: XII
Worksheet 1

General Instructions:

1) The work should be done neatly and systematically.

2) The given questions are to be done in your respective subject notebooks.

3) Attempt all questions.

Subject: English Core

No. of questions: 10   M.M. 25

Read the passage carefully.   **(4)**

In the intricate tapestry of life's decisions, selecting a career path resembles navigating through a kaleidoscopic maze of possibilities. The labyrinthine journey of career selection, with its myriad permutations and combinations, can be as enigmatic as deciphering an ancient cryptogram. Like a master chess player contemplating their next strategic move, one must cogitate on the ramifications of each career choice with perspicacious deliberation.

The zeitgeist of contemporary professional landscapes is in perpetual flux, metamorphosing like a chameleon adapting to its environment. The quintessential careers of yesteryear may become obsolete, while nascent opportunities burgeon like mushrooms after rain. One must possess the prescience to discern which vocational pursuits will flourish in the crucible of future markets.

Consider the paradox of passion versus pragmatism – a conundrum that has confounded countless aspirants. While some may advocate following one's heart (though it's not a GPS device), others emphasise the paramount importance of market viability. The key lies in finding the sweet spot where personal predilections intersect with pecuniary potential – a professional Shangri-La, if you will.

The denouement of this career-choosing odyssey requires assiduous research, perspicacious analysis, and perhaps a quantum of serendipity. Like a skilled alchemist, one must transmute raw talents and proclivities into marketable skills, while remaining cognizant of the inexorable march of technological progress and its implications for future employment paradigms.

Remember, choosing a career isn't just about bringing home the bacon – it's about finding your place in the grand symphony of professional life, where your unique melody harmonises with the orchestral demands of the marketplace.

Based on the reading of the extract, answer the questions given below.

Q1. According to the passage, what BEST describes the nature of contemporary professional landscapes? **1**

 A. constant and predictable
 B. change slowly over decades
 C. transform rapidly and continuously
 D. follow fixed historical patterns

Q2. What does the passage suggest about the relationship between passion and pragmatism in career choice? **1**
 A. The ideal is finding where personal interests meet market demands
 B. Pragmatism is the only important factor
 C. Passion should always be prioritized over practical considerations
 D. They are mutually exclusive concepts

Q3. According to the passage, what skill is necessary for successful career selection? **1**
 A. The ability to predict lottery numbers
 B. Basic computer programming
 C. Perspicacious analysis and research
 D. Following others' career paths

Q4. How does the passage characterise the role of technology in career selection? **1**
 A. It's irrelevant to career choices
 B. It only affects certain industries
 C. It's a temporary trend
 D. It has inexorable implications for future employment

Q5. The Literary Club of Ramjas Public School is staging a play based on 'Harry Potter and the Chamber of Secrets'. You are Ravit/Rhea, Secretary of the Club. Draft a notice inviting the students of Std. VI-XII to audition for the same. Invent all the necessary details like date, time etc. (50 words)
3

Q6. You are Ananya / Arjun, a Class 12 student. You are concerned about deteriorating travel etiquette among people today. Write an article in about 150 words highlighting the problem and suggesting solutions to promote responsible travel behaviour. **4**

Based on the reading of the extract, answer the questions given below. 3

> **Only the desks and benches had been worn smooth; the walnut-trees in the garden were taller, and the hopvine that he had planted himself twined about the windows to the roof. How it must have broken his heart to leave it all, poor man; to hear his sister moving about in the room above, packing their trunks! For they must leave the country the next day.**

Q7. How do the old desks, big walnut-trees, and hopvine show M. Hamel's bond with the school and his leaving? Answer in about 30 words. 1

Q8. Which of the following best reflects the *central emotion* conveyed in the passage? 1
 A. Nostalgia for school memories and childhood mischief
 B. Grief over the loss of a loved one due to illness
 C. Deep sorrow and emotional turmoil of parting with a cherished home
 D. Joy and excitement about starting a new life in a different country

Q9. The information in the extract suggests that M. Hamel's departure was _____. 1

Q10. Sketch one scene from *'The Last Lesson'* that left a strong impression on you. (5)
It could be:
- Franz entering the quiet classroom
- M. Hamel in his special outfit
- Villagers sitting silently in the back
- M. Hamel writing "Vive La France!" on the board
- Franz feeling sad and regretf

Subject: Hindi Core

No. of Questions – 10   **M.M- 25**

निर्देश — 1 दिए गए सभी प्रश्नों के उत्तर हिन्दी की उत्तर पुस्तिका में लिखिए।

2 कार्य स्वच्छ शुद्ध एवं स्पष्ट लेख में कीजिए।

प्रश्न 1   निम्नलिखित गद्यांश पर आधारित प्रश्नों के उत्तर निर्देश के अनुसार दीजिएः

(1×5=5)

भारत प्राचीनतम संस्कृति का देश है।यहाँ दान पुण्य को जीवनमुक्ति का अनिवार्य अंग माना गया है।जब दान देने को धार्मिक कृत्य मान लिया गया तो निश्चित तौर पर दान लेने वाले भी होंगे।हमारे समाज में भिक्षावृत्ति की ज़िम्मेदारी समाज के धर्मात्मा, दयालु व सज्जन लोगों की है।भारतीय समाज में दान लेना व दान देना-दोनों धर्म के अंग माने गए हैं।कुछ भिखारी खानदानी होते हैं क्योंकि पुश्तों से उनके पूर्वज धर्म स्थानों पर अपना अड्डा जमाए हुए हैं।कुछ भिखारी अंतर्राष्ट्रीय स्तर के हैं जो देश में छोटी-सी विपत्ति आ जाने पर भीख का कटोरा लेकर भ्रमण के लिए निकल जाते हैं।इसके अलावा अनेक श्रेणी के और भी भिखारी होते हैं।कुछ भिखारी परिस्थिति से बनते हैं तो कुछ बना दिए जाते हैं।कुछ शौकिया भी इस व्यवसाय में आ गए हैं।जन्मजात भिखारी अपने स्थान निश्चित रखते हैं।कुछ भिखारी अपनी आमदनी वाली जगह दूसरे भिखारी को किराए पर देते हैं।आधुनिकता के कारण अनेक वृद्ध मज़बूरीवश भिखारी बनते हैं।गरीबी के कारण बेसहारा लोग भीख माँगने लगते हैं। काम न मिलना भी भिक्षावृत्ति को जन्म देता है।कुछ अपराधी बच्चों को उठा ले जाते हैं तथा उनसे भीख मँगवाते हैं।वे इतने हैवान हैं कि भीख माँगने के लिए बच्चों का अंग-भंग भी कर देते हैं।भारत में भिक्षा का इतिहास बहुत पुराना है।देवराज इंद्र व विष्णु श्रेष्ठ भिक्षुकों में थे।इंद्र ने कर्ण से अर्जुन की रक्षा के लिए उनके कवच व कुंडल ही भीख में माँग लिए। विष्णु ने वामन अवतार लेकर भीख माँगी।धर्मशास्त्रों ने दान की महिमा का बढ़ा - चढ़ाकर वर्णन किया जिसके कारण भिक्षावृत्ति को भी धार्मिक मान्यता मिल गई।पूजा-स्थल, तीर्थ, रेलवे स्टेशन, बसस्टैंड, गली-मुहल्ले आदि हर जगह भिखारी दिखाई देते हैं।इस कार्य में हर आयु का व्यक्ति शामिल है।साल-दो साल के दुध मुँहे बच्चे से लेकर अस्सी-नब्बे वर्ष के बूढ़े तक को भीख माँगते देखा जा सकता है।भीख माँगना भी एक कला है, जो अभ्यास या सूक्ष्म निरीक्षण से सीखी जा सकती है।अपराधी बाकायदा इस काम की ट्रेनिंग देते हैं।भीख रोकर, गाकर, आँखें दिखाकर या हँसकर भी माँगी जाती है।भीख माँगने के लिए इतना आवश्यक है कि दाता के मन में करुणा जगे।अपंगता, कुरूपता, वृद्धावस्था आदि देखकर दाता करुणामय होकर परंपरा निर्वाह कर पुण्य प्राप्त करता है।

(i) समाज के धर्मात्मा, दयालु व सज्जन लोग किसके लिए ज़िम्मेदार है ?

(क) चोरी के लिए

(ख) भिक्षावृत्ति के लिए

(ग) दान न देने के लिए

(घ) अशिष्टता के लिए

(ii) भारत में दान-पुण्य को किसका अनिवार्य अंग माना गया है।?

   (क) मुक्ति का
   (ख) जीवन का
   (ग) जीवन मुक्ति का
   (घ) जन मुक्ति का

(iii) निम्नलिखित कथन (A) तथा कारण (R) को ध्यानपूर्वक पढ़िए तथा दिए गए विकल्पों में से कोई एक सही विकल्प चुनकर लिखिए।

कथन (A) भीख माँगना भी एक कला है।
कारण (R) अपराधी बाकायदा इस काम की ट्रेनिंग देते हैं।

1 कथन (A) तथा कारण (R) दोनों गलत हैं।
2 कथन (A) गलत है परन्तु कारण (R) सही है।
3 कथन (A) सही है परन्तु कारण (R) गलत व्याख्या करता है।
4 कथन (A) सही है और कारण (R) कथन की सही व्याख्या करता है।

(iv) भिखारी किस-किस जगह पर दिखाई देते है ?

(v) इंद्र और वामन ने किस रूप में भिक्षा माँगी ?

प्रश्न 2 'स्वास्थ्य की रक्षा' विषय पर 100 से 120 शब्दों में अनुच्छेद लिखिए। $(5×1=5)$

प्रश्न 3 जनसंचार के प्रमुख माध्यम कौन-कौन से हैं ? उनका हमारे जीवन में क्या महत्त्व है ? $(2×1 = 2)$

प्रश्न 4 उल्टा पिरामिड-शैली क्या है?उदाहरण देकर स्पष्ट कीजिए। $(2×1 = 2)$

प्रश्न 5 भक्तिन अच्छी है, यह कहना कठिन होगा, क्योंकि उसमें दुर्गुणों का अभाव नहीं। लेखिका ने ऐसा क्यों कहा होगा?क्या आप भी स्वयं में कोई दुर्गुण देखते हैं? $(1½×1= 1½)$

प्रश्न 6 'बाजार का जादू आँख की राह काम करता है।' इस कथन के माध्यम से लेखक क्या कहना चाहते है ? $(1½×1 = 1½)$

प्रश्न 7 पक्षियों के बच्चे किस बात की आशा में नीड़ों से झाँक रहे होंगे?आप भी किसी की प्रतीक्षा करते समय क्या करते हैं ? $(1½×1 = 1½)$

प्रश्न 8 'पतंग' कविता में कवि ने शरद ऋतु में दोपहर के समय का वर्णन कैसे किया है? $(1½×1 = 1½)$

प्रश्न 9 बेटी की सलाह पर यशोधर बाबू की पत्नी क्या करने लगी थी? $(1×1 = 1)$

परियोजना कार्य ः प्रश्न 10 विवाह की पच्चीसवीं सालगिरह (Silver Wedding Anniversary) का एक सुंदर निमंत्रण पत्र बनाकर उस पर संदेश लिखिए। $(4×1=4)$

Subject: Mathematics

Q.1 If the function f(x) defined by   2

$$f(x) = \begin{cases} \dfrac{\log(1+3x) - \log(1-2x)}{x}, & x \neq 2 \\ k, & x = 0 \end{cases}$$

is continuous at x = 0, then find the value of k.

Q.2 Find the value of k which makes   2

$$f(x) = \begin{cases} x \sin\dfrac{1}{x}, & x \neq 0 \\ k, & x = 0 \end{cases}$$

continuous at x = 0.

Q.3   If f(x) = $\log_{e}(\log x)$, then find f'(x) at x = e.   2

Q.4   If x = a cos³ q, y = a sin³ q, then solve $\sqrt{1+\left(\dfrac{dy}{dx}\right)^2} =$ 2

Q.5 If $y = \sin^{-1}\left(\dfrac{1-x^2}{1+x^2}\right)$, then $\dfrac{dy}{dx} =$?   2

Q.6 Find $\dfrac{d}{dx}\left\{ \tan^{-1}\left(\dfrac{\cos x}{1+\sin x}\right)\right\}$ 3

Q.7 What will be the derivative of $\cos^{-1}(2x^2 - 1)$ with respect to $\cos^{-1} x$.   3

Q.8 If y = $\log\sqrt{\tan x}$, then find the value of $\dfrac{dy}{dx}$ at $x = \dfrac{\pi}{4}$.   3

Q.9 If $\sin^{-1}\left(\dfrac{x^2 - y^2}{x^2 + y^2}\right)$ = log a then find $\dfrac{dy}{dx}$.   3

Q.10 If $y = \tan^{-1}\left(\dfrac{\sin x + \cos x}{\cos x - \sin x}\right)$, then find $\dfrac{dy}{dx}$.   3

Subject: Physics

No. of questions: 10   M.M. 25

Objectives:

- Revision of concepts
- Application of the concepts to real life situations.
- Skills to carry out research work and develop scientific aptitude.

Instructions:

- Neatly write all the answers in your notebook.
- Attempt the questions keeping in mind the weightage of each question

1. The resistance of alloy constantan is   1

(a) Nearly independent of temperature   (b) Increases rapidly with increase in temperature

(c) Decreases with increase in temperature   (d) Increases rapidly with decrease in temperature

2. . A test charge is moved from lower potential point to a higher potential point. The potential energy of test charge will   1

(a) remain the same   (b) increase   (c) decrease   (d) become zero

For question number 3,two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the option as given below.

(A) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(B) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(C) If Assertion is true but Reason is false.

(D) If both Assertion and Reason are false.

3.**Assertion :** A metallic shield in form of a hollow shell may be built to block an electric field.

Reason : In a hollow spherical shield, the electric field inside it is zero at every point.   1

4. **Case Study Based Question**: The flow of charge in a particular direction constitutes the electric current. Current is measured in Ampere. Quantitatively, electric current in a conductor across an area held perpendicular to the direction of flow of charge is defined as the amount of charge is flowing across that area per unit time.

Current density at a point in a conductor is the ratio of the current at that point in the conductor to the area of

cross section of the conductor of that point.

The given figure shows a steady current flows in a metallic conductor of non-uniform cross section. Current density depends inversely on area,
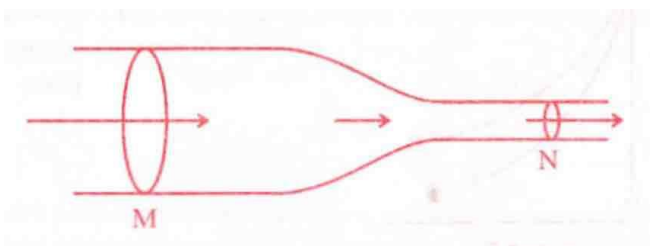
(i) What is the current flowing through a conductor, if one million electrons are crossing in one millisecond through a cross-section of it ?   1

(a) 2.5×10^{-10} A (b) 1.6×10^{-10} A   (c) 7.5×10^{-9} A   (d) 8.2×10^{-11} A

(ii) SI unit of electric current is   1

(a) Cs   (b) Ns^{-2} (c) Cs^{-1} (d)$C^{-1}s^{-1}$

(iii) A steady current flows in a metallic conductor of non-uniform cross-section. Which of these quantities is constant along the conductor?   1

(a) Electric field   (b) Drift velocity   (c) Current   (d) Current density

(iv) A constant current I is flowing along the length of a conductor of variable cross-section as shown in the figure given above. The quantity which does not depend upon the area of cross-section is   1

(a) electron density   (b) current density   (c) drift velocity   (d) electric field

5. A cylindrical metallic wire is stretched to increase its length by 5%. Calculate the percentage change in its resistance.   2

6. At room temperature (35.0^{o}C) the resistance of a heating element is 100 Ω. What is the temperature of the element if the resistance is found to be 210 Ω, given that the temperature coefficient of the material of the resistor is 1.70×10^{-4} ^{o} C^{-1}.   2

7.The storage battery of a car has an emf of 12V. If the internal resistance of the battery is 0.4ohm. What is the maximum current that can be drawn from the battery?   3

8. Potential difference V is applied across the ends of copper wire of length L and diameter D. What is the effect on drift velocity of electron if   3

(i) V is doubled (ii) L is doubled   (iii) D is doubled

Class 12 Worksheet 1

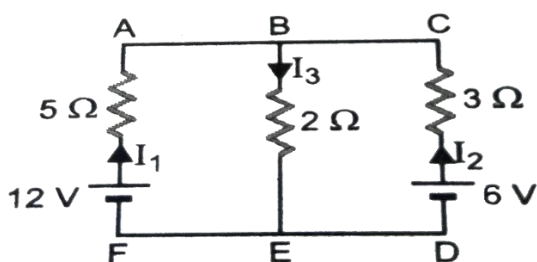9. What is drift velocity? Drive expression for drift velocity of electrons in a good conductor in terms of relaxation time of electrons.   3

10. State Kirchoff's rules of current distribution in an electric network. Using these rules determine the value of the current I_1 in the electric circuit of given fig.   5

Subject: Chemistry

No. of questions: 10   M.M. 25

1. Define the following terms: (a) Molarity (b) Mole fraction   (2)

2. State Henry's Law and mention its two applications.   (3)

3. Calculate the mole fraction of ethylene glycol ($C_2H_6O_2$) in a solution containing 20% by mass of

   ethylene glycol in water. (Molar mass of $C_2H_6O_2$ = 62 g/mol, Molar mass of H_2O = 18 g/mol)   (3)

4. What are colligative properties? Give two examples of colligative properties.   (3)

5. A solution containing 18 g of a non-volatile solute in 100 g of water boils at 100.52 °C. Calculate the

   molar mass of the solute.

   (Given: Kb for water = 0.52 K kg/mol, Boiling point of pure water = 100 °C)   (3)

6. Explain why a solution of sodium chloride in water shows a higher elevation in boiling point than a

   solution of glucose of the same molar concentration.   (2)

7. State Raoult's Law for a solution containing a non-volatile solute. Write its mathematical expression.   (2)

8. Differentiate between ideal and non-ideal solutions.   (3)

9. What is reverse osmosis? Mention one of its important applications.   (2)

10. What type of deviation from Raoult's law is shown by a mixture of ethanol and water? Explain the reason for
this deviation.   (2)

Subject: Computer Science

No. of questions: 13   M.M. 25

Choose the correct answer from the following:

Q1. What is the pickling?   1

    (a) It is used for object serialization

    (b) It is used for object deserialization

    (c) None of the mentioned

    (d) All of the mentioned

Q2. Which of the following statements is not true regarding the opening modes of a file?   1

    (a) When you open a file for reading, if the file does not exist, an error occurs.

    (b) When you open a file for writing, if the file does not exist, an error occurs.

    (c) When you open a file for reading, if the file does not exist, the program will open an empty file.

    (d) When you open a file for writing, if the file does not exist, a new file is created.

    (e) When you open a file for writing, if the file exists, the existing file is overwritten with the new file.

Q3. Which of the following is not a type of file in Python?   1

    (a) Text file

    (b) Binary file

    (c) CSV file

    (d) JSON file

Q4. Which of the following functions do you use to write data in the binary format?   1

    (a) Write

    (b) Output

    (c) Dump

    (d) Send

Q5. Which of the following statement is incorrect in the context of picked binary files?   1

    (a) csv module is used for reading and writing objects in binary files.

    (b) pickle module is used for reading and writing objects in binary files.

    (c) load() of the pickle module is used to read objects.

    (d) dump() of the pickle module is used to read objects.

Q6. Which of the following is NOT a type of file in Python?   1

    (a) Text file   (c) Binary file

    (b) CSV file   (d) JSON file

Q7. What is a Text File in Python.? 2

Q8. What is a Binary File in Python? 2

Q9. What is Pickle Module, and why is it important to import it while working
   with Binary Files? 1+2=3

Q10. What is the open function. Explain with the help of an example. 2

Q11. What is the close() function? What is it used for? 2

Q12 Differentiate between write and append mode in a Binary file . 2

Q13. Create a Binary file "Student.dat" with details like student_number, name, percentage and fees
in the form of a list. 2x3=6

   a) Create a function createrec( ) to add records in the file.
   b) Create a function showdetails ( ) to show the details of the student_number passed as a
      parameter to the function.
   c) Create a function showperc( ) to show the percentage and name of the student who has scored
      more than 75%.

Subject: Biology

No. of questions: 10   M.M. 25

Q1. During Microsporogenesis, meiosis occurs in   (1)
     a) endothecium
     b) microspore mother cells
     c) microspore tetrads
     d) pollen grain

Q2. Morula is a developmental stage   (1)
     a) between the zygote and blastocyst
     b) between the blastocyst and gastrula
     c) after the implantation
     d) between the implantation and parturition

Two statements are given: one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.
    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.

Q3. **Assertion**: Haemophilia never occurs in women   (1)
  Reason: Gene for haemophilia is located on X chromosome

Q4. A male honeybee has 16 chromosomes whereas it's female has 32 chromosomes. Give one reason.   (2)

Q5. Why does corpus luteum secrete large amount of progesterone during luteal/ secretory phase of the menstrual cycle?   (2)

Q6. The generative cell of a 2 celled pollen divides in a pollen tube but not in 3 celled pollen. Give reasons.   (3)

Q7. Removal of gonads cannot be considered as a contraceptive option. Why?   (3)

Q8. Schematically represent and explain the events of spermatogenesis in humans.   (3)

Q9. Observe the diagram and answer the following questions:

Germinating angiospermic pollen grain
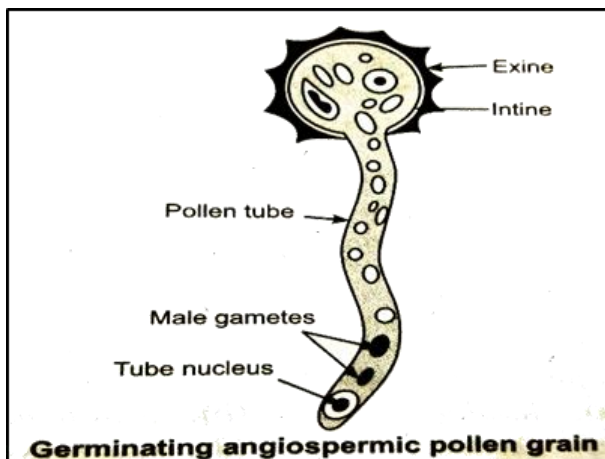
a) How many pollen grains and ovules are likely to be formed in the anther and ovary of an angiosperm bearing 25 microscope mother cells and 25 megaspore mother cells respectively?

b) How do the pollen grains of Vallisneria protect themselves?

c) If the stamens are well exposed, usually which mode of pollination the plant is expected to follow?   (2+1+1=4)

Q10. Observe the figure and answer the following questions:
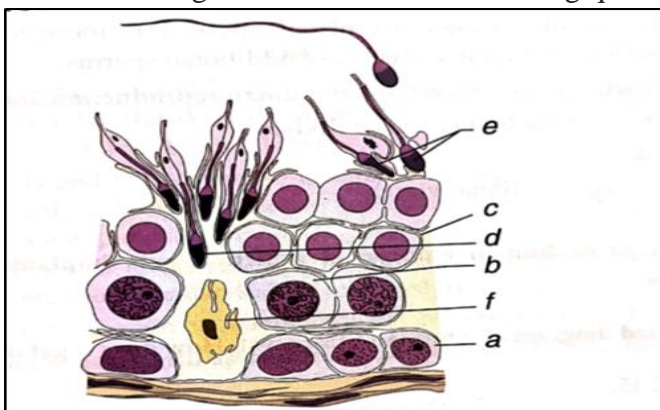
a) What is being depicted in the diagram?

b) Name a and b cells. What is the difference between them with reference to the number of chromosomes?

c) Pick out and name the motile cells.

d) What is f cell? Mention it's function.

e) Name the structure of which the given diagram is a part.   (1*5=5)

Activity: Pollination Detective activity
Students will choose 5 flowers. Observe the features like colour, nectar presence and presence of pollen grains and find their pollinating agent.

Subject: Informatics Practices

No. of questions: 10   M.M. 25

Q1   Write a program to create a series to print scalar value "5" four times.   2

Q2   Write a program to create a series object F1 using a dictionary that stores the number of furniture in each lab of your school.Note: Assume four furniture names are Table, Sofa, Chair and stool having 40, 2,45,26 items respectively and pandas library has been imported as pd.   2

Q3   What will be the output of the following code:

```
import pandas as pd
L= [9,10,12]
S=pd.Series(L)
Dbl=pd.Series(data = S*2)
print("New Series: ")
print(Dbl)
```
                                                                                                          2

Q4   Write a program to create a series object using a dictionary that stores the number of students in each house of CLASS 8G of ABC School.

Note: Assume four house names are Beas, Chenab, Ravi and Satluj having 18, 2, 20, 18 students respectively and pandas library has been imported as pd.   2

Q5   What will be the output of the following code: 2

```
>>>import pandas as pd
>>>A=pd.Series(data=[35,45,55,40])
>>>print(A==data)
```

Q6(a)   Find the output of following program.   1

```
import numpy as np
d=np.array([10,20,30,40,50,60,70])
print(d [-4:])
```

Q6(b)   What will be the output of the following code: 1

```
>>>import pandas as pd
>>>A=pd.Series(data=[35,45,55,40])
>>>print (A[A>45])
```

Q7(a)   Write the output of the given command:

```
import pandas as pd
s=pd.Series([1,2,3,4,5,6],index=['A','B','C','D','E','F'])
print(s[s%2==0])
```
                                                                                                          1

Q7(b)   What will be the output of the following code:

```
>>>import pandas as pd
>>>A=pd.Series(data=[35,45,55,40])
>>>print ([A>45])
```
                                                                                                          1

Q8   Write a program to create a series object comp using a list that stores the number of quantity of computer item in lab of your school. Note: Assume four computer item names as index are KB, Mouse, computer and printer having values are 30, 25, 20, 2 items respectively and pandas library has been imported as pd.   3

Q9(a) A social science teacher wants to use a pandas series to teach about Indian historical monuments and its states. The series should have the monument names as values and state names as indexes which are stored in the given lists, as shown in the code. Choose the statement which will create the series:

import pandas as pd
Monument=['Qutub Minar','Gateway of India','Red Fort','Taj Mahal']
State=['Delhi','Maharashtra','Delhi','Uttar Pradesh']
a. S=df.Series(Monument, index=State)
b. S=pd.Series(State, Monument)
c. S=pd.Series(Monument, index=State)
d. S=pd.series(Monument, index=State)   1

Q9(b) Difference between loc() and iloc() with an example for each.   2

Q10(a) What will be the output of following code and Answer the following:
i. List the index of the DataFrame df
ii. List the column names of DataFrame df.   1

import pandas as pd
Year1={'Q1':5000,'Q2':8000,'Q3':12000,'Q4': 18000}
Year2={'A' :13000,'B':14000,'C':12000}
totSales={1:Year1,2:Year2}
df=pd.DataFrame(totSales)
print(df)

Q10(b) Consider the given DataFrame 'Stock':   4
Name Price
0 Nancy Drew 150
1 Hardy boys 180
2 Diary of a wimpy kid 225
3 Harry Potter 500
Write suitable Python statements for the following:
i. Add a column called Special_Price with the following :data: [135,150,200,440].
ii. Add a new book named 'The Secret' having price 800.
iii. Remove the column Price.
iv. Remove first and third rows from DataFrame

Subject: Business Studies

No. of questions: 10   M.M. 25

Q.1 Statement I: Management is multi-dimensional.

   Statement II: The activities involved in managing an enterprise are common to all organisations whether economic, social or political.

Choose the correct option from the options given below: 1

a) Statement I is true and II is false.

 b) Statement II is true, and I is false.

c) Both statements are false.

d) Both statements are true.

Q.2 The process of designing and maintaining an environment in which individuals work together in groups, efficiently accomplishing selected aims, is known as……   1

a) Planning   b) Organising

c) Management   d) Efficiency.

Q.3 A worker directly contact to CEO of the company with a complaint regarding working conditions in the factory. Which of the following principles is being violated here?   1

a) Unity of command   b) Scalar chain

c) Unity of direction   d) Discipline

Q.4 Read the following statements of Assertion(A) and Reason(R) and choose the correct alternative:

Assertion(A) – Making decisions is an important component of planning.

Reason(R) – when there is just one possibility left only then planning is required.   1

a) Both A and R are correct

b) A is correct, R is incorrect

c) Both A and R are correct and R is the correct explanation of R

d) Both A and R are correct and R is not the correct explanation of R

Q.5 'Principles of management help in thoughtful decision making.' How?   1

Q.6 ABC Ltd. is engaged in producing electricity from domestic garbage. There is almost equal division of work and responsibilities between workers and the management. The management even takes workers into confidence before taking important decisions. All the workers are satisfied as the behaviour of the management is very good. State the principle of management described in the above paragraph.   3

Q.7 Mega Ltd. was manufacturing water-heaters. In the first year of its operations, the revenue earned by the company was just sufficient to meet it's costs. To increase the revenue, the company analysed the reasons of less revenues. After analysis, the company decided

(i) To reduce the labour cost by shifting the manufacturing unit to a backward area where labour was available at a very low rate.

(ii) To start manufacturing solar water-heaters and reduce the production of electric water-heater slowly.

This will not only help in covering the risks, but also help in meeting other objectives too.

a) Identify and explain the objectives of management discussed above.   3

Q.8 After completing a diploma in Bakery and Patisserie, Payal sets up a small outlet at Goa Airport to provide a healthy food option to the travellers. To begin with, she has decided to sell five types of patties, three types of pizzas and low sugar muffins in four flavours. Thus, by deciding in advance what to do and how to do, she is able to reduce the risk of uncertainty and avoid overlapping and wasteful activities. But sometimes her planning does not work due to some unavoidable circumstances like cancellation of flights due to bad weather conditions, government alert, etc. which adversely affects her clientele. In the context of the above case:

a. Identify and explain the points highlighting the importance of planning mentioned in the above paragraph.

b. Describe briefly the limitation of planning which adversely affects Payal's business.   4

Q.9 Radhika opens a jewelry showroom in Jaipur after completing a course in jewellery designing. She has employed eleven persons in her showroom. For greater productivity, she divides the work into small tasks and each employee is trained to perform his/her specialized job. The sales persons are allowed to close a deal with a buyer by giving a maximum of 10% discount, whereas the decision to given any further discount rests with Radhika as the final authority. In the earlier days of starting of the business, five of her employees were asked to put in extra hours of work. In return she had promised to give them a special incentive within a year. Therefore, after six months when the business was doing well, she awarded a cash bonus to each of these employees to honour her commitment. However, when it comes to setting the conflicts among her employees, she tends to be more biased towards her female employees. In context of the above case:

a. Identify and explain the various principles of management that are being applied by Radhika by quoting lines from the paragraph.

b. Identify and explain the principle of management which is being violated by Radhika by quoting lines from the paragraph.

c. State any one effect of the violation of the principle of management by Radhika as identified in part (b) of the question.   4

Q.10 Two years ago, Madhu completed her degree in food technology. She worked for sometime in a company that manufactured chutneys, pickles and murabbas. She was not happy in the company and decided to have her own organic food processing unit for the same. She set the objectives and the targets and formulated an action plan to achieve the same. One of her objectives was to earn 10% profit on the amount invested in the first year. It was decided that raw materials like fruits, vegetables, spices, etc. will be purchased on three months credit from farmers cultivating only organic crops. She also decided to follow the steps required for marketing of the products through her own outlets. She appointed Mohan as the Production Manager who decided the exact manner in which the production activities were to be carried out. Mohan also prepared a statement showing the number of workers that will be required in the factory throughout the year. Madhu informed Mohan about her

area wise sales target for different products for the forthcoming quarter. While working on the production table, a penalty of? 100 per day for not wearing caps, gloves and apron was announced. Quoting lines from the above paragraph identify and explain the different types of plans discussed.   6

Activity: Choose one topic either from Principles of Management (to check the status of Fayol principles in a particular organization) or Business Environment (say child labour, women empowerment etc.) or Marketing Management (to develop a product and ascertaining its demand by treating yourself as a producer/ manufacturer) or Stock Exchange (students need to invest Rs.50,000 in imaginary portfolio of 5 companies and check whether profit is earned or loss is incurred after 10 days)

Collect the information, analyze and interpret the results in a file.

Subject: Accountancy

No. of questions: 10   M.M. 25

Q.1   KalchiniLtd. has current assets worth Rs.3,50,000 and it needs to pay off its obligations worth Rs.2,00,000. If the firm has to make a payment of a current liability worth Rs.50,000, what will be the current ratio?   1
     a) 3:1   b) 0.75: 1
     c) 1:1   d) 2:1

Q.2   Comparative Financial Statement is an example of……………   1
     a) Horizontal analysis   b) Vertical Analysis
     c) Internal Analysis   d) External analysis

Q.3   What is Horizontal Analysis?   1

Q.4   State one transaction which will result in an increase in 'liquid ratio 'and no change in 'current ratio'.

Q.5   Under which type of activity will you classify "Corporate dividend tax paid by company" while preparing the Cash Flow Statement?   1

Q.6   The ratio of current Assets (Rs. 9,00,000) to current liabilities is 1.5:1. The accountant of this firm is interested in maintaining a current ratio of 2:1 by paying some part of current liabilities. You are required to suggest to him the amount of current liabilities which must be paid for the purpose.   3

Q.7   Rs.2,00,000 is the cost of Revenue from operations, inventory turnover 8 times, Inventory at the beginning is 1.5 times more than the Inventory at the end. Calculate the value of opening & closing Inventory.   3

Q.8   Under which major head of the statement of profit and loss of a company the following items will be shown: 4
     (i) Bonus   (ii) Material Purchased
     (iii) Wages   (iv) Purchase of stock in trade

Q.9   Give major heads under which the following items will be shown in a company's Balance Sheet as per Schedule III, Part I of the Companies Act, 2013:   4
     (i) Trade Payables,
     (ii) Provision for Tax,
     (iii) Surplus, i.e., Balance in Statement of Profit and Loss (Dr.) and
     (iv) Surplus, i.e., Balance in Statement of Profit and Loss.

Q.10   i)A business has a current ratio of 3 : 1 and quick ratio of 1.2 : 1. If the working capital is Rs 1,80,000. Calculate the total current assets and value of inventory.
     (ii) From the given information calculate the inventory turnover ratio. Revenue from operations (Sales) Rs 2,00,000, gross profit 25% on cost, inventory at the beginning is 1/3 of the inventory at the end which was 30% of sales.   6

Activity: . Collect the financial statements and cash flow statement of a company.
1. Analyze the financial statements by using various ratios and interpret the results in a file.
2. Analyze the cash flow statement of a company and interpret the results in a file.

Notes to Accounts
1. Reserves and Surplus

General Reserve	3,10,000	3,00,000
Surplus i.e. Balance in Statement of P/L	68,000	56,000
	3,78,000	**3,56,000**

Additional Information:
i) Investments costing Rs.8,000 were sold during the year for Rs.8,500

Subject: Economics

No. of questions: 10   M.M. 25

Q1. Consider a scenario where a farmer sells wheat to a bakery, which in turn sells bread to customers. Identify the type of economic flow (real flow or money flow) occurring at each stage. How do these flows contribute to the functioning of the economy?   2

Q2. The government of India is assessing inflation trends using the GDP deflator. Explain what the GDP deflator is and demonstrate how it would be calculated if nominal GDP is ₹100 trillion and real GDP is ₹90 trillion.   2

Q3. A country has a high GDP but faces significant income inequality, environmental degradation, and poor healthcare infrastructure. Based on this scenario, evaluate whether GDP is a reliable measure of economic welfare. Justify your reasoning.   2

Q4. Suppose Country A and Country B have the same GDP, but Country A has a higher population. Critically analyze whether higher GDP always leads to greater per capita availability of goods. Support your answer with reasoning.   2

Q5. While calculating national income, a factory's output value is mistakenly counted twice—once when produced and again when sold. Define this issue of double counting and suggest two methods to correct it in national income computation.   2

Q6. A nation reports a high nominal GDP growth, but its real GDP remains stagnant. Explain the difference   3
between real GDP and nominal GDP, and analyze the possible economic factors contributing to this discrepancy.

Q7. A firm produces machines used in manufacturing, while another produces furniture for households. Compare consumer goods and capital goods using these examples. Which of these would be considered final goods? Explain your answer.   3

Q8. A research team is computing the national income of a country using the income method. Suggest three precautions they must take to ensure accuracy and avoid misinterpretation of data.   3

Q9. Analyse whether the following should be included in India's domestic factor income. Provide a rationale for each case.   3

(i)   A foreign bank operates branches in India and earns profits.

(ii)   The Indian government provides scholarships to students.

(iii)   An Indian entrepreneur runs a successful business in Singapore and earns profits.

(iv)   Indians employed in the American Embassy in India receive salaries.

Q10. Students are supposed to design an infographic showcasing different economic indicators such as GDP, inflation rate, unemployment rate, etc. They should explain what each indicator measures, how it is calculated, and its significance in evaluating the health of an economy. (Include visually appealing graphs, charts, and icons to illustrate each indicator and make the information easy to understand at a glance. Utilize colour coding and concise text to highlight key points and ensure clarity.   3

Activity: Create a visual timeline highlighting key economic events, such as Five-Year Plans, LPG reforms (1991), demonetization (2016), GST implementation (2017), and digital economy growth.

Subject: History

No. of questions: 10   M.M. 25

1. Who is the author of Rihla.   1

2. Which Mughal emperor did François Bernier visit?   1

3. What is the literal meaning of 'Kitab-ul-Hind'?   1

4. Who wrote Travels in the Mughal Empire?   1

5. Who was Al-Biruni and what was the purpose of his visit to India?   2

6. State two features of Ibn Battuta's account of India.   2

7. Describe the major themes of François Bernier's account of India.   3

8. What were the limitations of Al-Biruni's understanding of Indian caste system?   3

9. Explain the urban culture of the 14th century as described by Ibn Battuta.   3

10. "Bernier's descriptions influenced Western perceptions of India." Justify this statement with suitable evidence.

                                                                                                                                8

Subject: Political Science

No. of questions: 10   M.M. 25

*Objective***:** - To enable the students to know about the inventions of new concepts in world politics and constitution of India.
- To develop 21st century managerial skills of co-ordination, self-direction and time management.
- To understand contemporary political issues in context to our past.
- To develop a global perspective and an international outlook.

Research Activity: - Research and collect information on recent revolution of political ideas in the world and India, in the following areas.
- Comparison between NITI Aayog and Planning Commission and their contribution in India's Development.
- Health Epidemic – A new source of security threat

Assignment: - *Project Work*

Project Ideas
· The Nehru- Jinnah theory of partition – its consequences
· Naxalism – its roots and possible solution to their woes
· Popular movements in India – do they strengthen democracy?
· Political Impact on Indian Legislations.
· Political Impact on India's international standing.
· Indian political stand on United Nations General Assembly 2024.
· Relevance of SAARC as a forum of regional cooperation.
· Division of Germany with special focus on the construction and dismantling of the Berlin wall.
· CIS- Central Asian Republics.
· Arab Spring
· Crisis in Middle East with special focus on Operation Desert Storm, Operation Iraqi Freedom, Iraq today.
· European Union and BREXIT.
· BRICS
· India's Nuclear Policy.
· U.S. dominance in World politics in the Post-Cold War era.
· India's role in Non-Aligned Movement.
· Civil Society Movements - Role and participation in India.
· Relevance of the United Nations in a Unipolar World.
· Understanding Resource Geopolitics and Environment degradation
· India's external relations -Critical analysis of the foreign policy of India especially with its immediate neighbours (Pakistan, China, Srilanka, Nepal, Myanmar)
· Popular movements in the post-Independence era and their outcomes.
· Project on the role played by the regional aspirations in backing the secessionist and insurgency movement in India

· India's response to ASEAN as a dialogue partner.
· India-Pakistan Relations in contemporary world.
· QUAD

GUIDELINES FOR THE PROJECTS:
It must be emphasized that the process of doing the project is as important as the final project.
Once the project/projects are chosen, there should be a process of brainstorming to make out a draft/structure
for the project before embarking on research.
Internet sites could be referred to, but care must be taken in selecting, using and citing these sites.
Avoid plagiarism
Marks to be awarded for content and originality and not for decorative elements and embellishments.
Projects must be the original work of the student.
Project may be supported by- Data, fact sheets, maps, articles, newspaper clips
Maximum of 25-30 page projects.

Assignment-I   M.M-25

Q.1 Write two features of Soviet Political System.	2
Q.2 Write a short note on Nikita Khruschev.	2
Q.3 How was European Union established?	2
Q.4 Write the full for of SAARC. List any three features of SAARC.	2
Q.5 How was 'Liberation Tigers of Tamil Eelam' formalized?	2
Q.6 What is NATO and when it was established?	2
Q.7 What do you understand by the 'bandwagon' strategy?	2
Q.8 What are the objectives of ASEAN Economic Community?	3
Q.9 Write a short note on Belgrade summit.	3
Q.10 Describe any four issues of tension between India and Bangladesh.	5

Subject: Geography

No. of questions: 10   M.M. 25

Q1 'Secondary activities add value to natural resources.' Explain with two examples.   1
Q2 Why is the share of employment in the tertiary sector increasing throughout the world? Give a reason.   1
Q3 What do you understand about environmental determinism?   1
Q4 What is Outsourcing meant?   1
Q5 Name the different types of trading centres.   1
Q6 Mention four features of Hunting and Gathering.   2
Q7 Name the busiest sea route of the world. Write four characteristics of this route   3
Q8 Explain the concept of Human development. Describe the four pillars of Human Development.   5
Q9 Who gave the concept of Neo determinism? Discuss in detail with example the concept of neo –
    determinism/stop and go determinism/scientific determinism?   5
Q10 "90 percent of the world population lives in about 10 percent of its total land area, whereas the remaining
   10 per cent population resides in the 90 per cent of its land area". Support the statement with suitable examples.
                                                                                                 5

Activity: Food Investigation

Get the recipe for your favourite family food and find out what herbs and spices it contains. On a map, find the countries that produce those herbs and spices. Do some research to find out more about these countries? What kind of climates do these places have? Could you grow the same spices where you live? Why or why not?

Subject: Psychology

No. of questions: 10   M.M. 25

Q1. CAS stands for_____ .   1

Q2. A person having a _____sets a standard for guiding her/his actions in life and for judging others.   1

Q3. Gajodhar performs poorly in academics. But in his daily life, he provides creative solutions to everyday
   tasks such as planning events, fixing broken electronics, etc. What would you call Gajodhar? Describe the
triarchic theory of intelligence.   2

Q4. Why is emotional intelligence receiving increasing attention from educators?   2

Q5. Describe the key features of the case study method.   2

Q6. Angad has been the topper in the class. He went to the topmost college, where he was neither sensitive
 to himself nor others. This led to problems in interpersonal relationships concerning his condition. Explain the
importance of emotional intelligence in his life.   2

Q7. Think of an international conflict. Suggest conflict resolution strategies for the same.   3

Q8. Explain the competencies of the Indian notion of intelligence.   4

Q9. How is aptitude different from intelligence? Explain how the PASS model helps us in understanding
 intelligence.   4

Q10. Explain the relationship between creativity and intelligence.   4

Activity: Activity: Discovering the attributes of intelligent persons:

> **1. Make a list of all the attributes you consider as manifestations of intelligent behaviour.
> Using these attributes, try to frame a definition.**
>
> **2. Discuss your report with your classmate.**

Subject: Physical Education

No. of questions: 10   M.M. 25

Q.1.Define management.   2

Q. 2. Define planning.   2

Q. 3. Differentiate between organising and staffing.   2

Q.4. Explain the various committees and their responsibilities to conduct sports event.   2

Q.5. Enlist duties of various committees before the competition.   2

Q. 6. Write down duties of various committee's post competition.   2

Q.7. What is staircase method?   2

Q. 8. Explain cyclic method in league tournament.   3

Q. 9. What is the procedure to allocate seeding?   3

Q.10. Define management. Explain the functions of sports event management.   5

Subject: Music

No. of questions: 7   M.M.10

1.The writer of 'Sangeet Parijat'   1
(a) Pt. Sharang Dev
(b) Pt. Ahobal
(c) Bharat Muni
(d) Pt. Vishnu Narayan Bhatkhande

2. Gharana of Ustad Faiyaz Khan-   1
(a) Delhi
(b) Rampur
(c) Patiala
(d) Agra

3. In Dhamar Tala, Khali Falls on which beat-   1
(a) 3rd
(b) 5th
(c) 8th
(d) 9th

4.Correct arrangement of Vibhagas in Jhaptal   1
(a) 2,3,3,2
(b) 2,3,2,3
(c) 3,2,3,2
(d) 3,2,2,3

5.The of types of gamaks according to ancient period   1
(a)1
(b) 9
(c) 15
(d) 20

 6. Explain the relevance of Time theory of Ragas in Hindustani Music. Give short description of it.
                                                                                                2.5
7.   Throw light on various parts of Tanpura.   2.5

ACTIVITY:

PRACTICE JHAPTAAL

Subject: Painting

General Instructions: Please do practical work on A-3 sheet with 2 cm borders. It is for 20 marks. Theory needs to be done in the notebook. It is for 5 marks

M.M. 25

Q1. Draw a miniature painting .

Q2. Explain the significance of the manuscript painting tradition in Indian Art.