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| **CLASS XII** B | **HOLIDAY HOMEWORK 2025-26** |

**ENGLISH**

**General Instructions:**

1. **Read the newspaper daily with special emphasis on school based reports, notices, posters and articles. Pay attention to the language used.**
2. **Attempt the following questions in English Registers.**
3. **Date of submission is 25 June,2025.**

**READING**

**Q1. Read the passage and on the basis of your understanding of the passage answer the questions given below:**

1. I was only a year and some months younger than Valodya; we grew up, studied and played together. No distinction of elder and younger was made between us. But just about the time I am speaking of I began to realize that I was no companion for him, either in age, in interests or in ability. It even seemed to me that Valodya himself was aware of his superiority and was proud of it. This idea (it may have been a wrong one) was inspired by my vanity which suffered every time I came in contact with him. He was better than me in everything; at lessons, in arguments and in manners, and all this took me farther from him and caused me moral anguish which I could not understand. When Valodya was given a tucked linen shirt for the first time I was unhappy for not having a shirt like that. I am sure I would have felt happier if I was convinced that every time, he arranged his collar it was not done to annoy me.

2. What tormented me most was that it sometimes seemed to me Valodya understood what was going on inside me but tried to hide it. But perhaps my sensitiveness and tendency to analyse deceived me in this case. It may be Valodya did not feel at all as I did. He was impulsive and his enthusiasm in different hobbies did not last long.

3. He would suddenly develop a passion for pictures, himself take up painting, spend all his money buying them and beg them of his drawing master, of papa and of grandmamma. Then it would be a craze for curios to decorate his table, collecting them from every room in the house, or a mania for novels which he obtained on the sly and read all day and night. I could not help being impressed by his hobbies but I was too proud to imitate him and too young and not independent enough to choose a hobby for myself. But there was nothing I envied so much as Valodya’s happy large heartedness which showed itself most strikingly when we quarreled. I always felt that he was behaving well but I could not do likewise.

4. Once when his passion of ornaments was at its height, I went up to his table and accidentally broke an empty bright-coloured little scent bottle. “Who asked you to touch my things?” demanded Valodya coming into the room and seeing how I had upset the symmetry of the different treasures on his table. “And where is the scent bottle? You must have…..”

5. “I knocked it over by accident and it broke. What does it matter?” “Do me the favour-never dare touch my things again”, he said, putting the pieces of broken flask together and looking at theme sorrowfully. “And you please don’t issue orders” I retorted, “that’s all.” And I smiled, though I did not feel in the least like smiling. “Yes, it’s nothing to you but it does matter to me,” pursued Valodya, jerking his shoulder, a gesture he had inherited from pap. “He goes and breaks it and then laughs, the nasty little brat!” “I am a little brat; and you’re big but you’re stupid.” “I am not going to quarrel with you,” said Valodya, giving me a slight push, “go away.” “Don’t push!” “Get away!” “Don’t push, I tell you!” Valodya took my word and tried to drag me away from the table; but I was beside myself by now; I got hold of the leg of the table and tipped it over. “There now!” And all his china and glass ornaments crashed to the floor. “You disgusting little boy!” cried Valodya, trying to save some of his falling treasures. “Well, now it is all over between us,” I thought as I left the room, “we have quarreled for good.”

6. As soon as afternoon lessons were over, I left the room. I was too scared, uncomfortable and ashamed to be alone with my brother. After our history lesson in the evening, I took my exercise books and started towards the door. As I passed Valodya, though I wanted to go up to him and make friends I scowled and put on an angry expression. At that moment Valodya raised his head and, with a meaningful smile, looked me full in the face. Our eyes met and I knew that he understood me; but some irresistible feeling made me turn away.

7. “Nicky!” he said in a most natural voice without a scrap of pathos. “Don’t be cross any more. Forgive me if I offended you.” And he held out his hand. Something that came higher and higher seemed to be pressing my chest and stopping my breath but this only lasted a second; tears came to my eyes and I felt better. “Forgive….m-me, Val-dya,” I stammered, squeezing his hand. Valodya looked at me as if he could not make out at all why there should be tears in my eyes. - Leo Tolstoy

**On the basis of your reading of the above excerpt, answer the following questions briefly: -**

**(a)** Why did Nicky feel that he was not an apt companion for Valodaya?

**(b)** Which aspect of Valodya’s personality was Nicky most upset about?

**(c)** Why did Nicky feel uncomfortable and ashamed to be alone with his brother?

**(d)** What did Nicky do to show that he was sorry for all that he had done in the morning? (e) Was the narrator repentent for his behavior? How do you know?

**(f)** What does Valodaya’s behavior show about his character?

**(g)** **Choose the correct option:**

**Which of the following is NOT true for Valodaya?**

(i) He was fond of reading.

(ii) He was inclined towards painting.

(iii) He was reckless with money.

(iv) He liked collecting curios and works of art.

**(h)** “I am a little brat, and you’re big but you are stupid.” This line highlights that Nicky –

 (i) was disrespectful towards his brother

(ii) was impulsive and volatile, but loved his brother

(iii) was jealous of his brother

(iv) was unapologetic towards his brother

**(j)** Give the synonym of ‘pride’ (para 1) and the antonym of ‘comforted’ (para 2)

**Q2. Read the passage and on the basis of your understanding of the passage answer the questions given below:**

I. Over the last five years, more companies have been actively looking for intern profiles, according to a 2018-19 survey by an online internship and training platform. This survey reveals that India had 80% more internship applications — with 2.2 million applications received in 2018 compared to 1.27 million in the year before. The trend was partly due to more industries looking to have fresh minds and ideas on existing projects for better productivity. What was originally seen as a western concept, getting an internship before plunging into the job market, is fast gaining momentum at Indian workplaces.

II. According to the survey data, India’s National Capital Region has been the top provider of internships, with a total of 35% internship opportunities, followed by Mumbai and Bengaluru at 20% and 15%, respectively. This includes opportunities in startups, MNCs and even government entities. The survey also revealed popular fields to find internships in. There has been growing awareness among the students about the intern profiles sought by hiring companies that often look for people with real-time experience in management than B- school masters.

III. The stipend has been an important factor influencing the choice of internships. The survey data reveals that the average stipend offered to interns was recorded as ₹7000 while the maximum stipend went up to ₹85,000. According to statistics, a greater number of people considered virtual internships than in-office internships. Virtual internships got three times more applications than in-office, since a large chunk of students were the ones already enrolled in various courses, or preferred working from home.

IV. Internship portals have sprung up in the last three to four years and many of them already report healthy traffic per month. Reports suggest that on an average, an internship portal company has around 200,000-plus students and some 8,000 companies registered on it. It gets around two lakh visits online every month. The Managing Director of a leading executive search firm says that though these web platforms are working as an effective bridge between the industry and students, most established companies are still reluctant to take too many interns on board for obvious reasons.

**Based on your understanding of the passage, answer any six out of the eight questions**

**by choosing the correct option.**

**1.** Select the correct inference with reference to the following:

    Over the last five years, more companies have been actively looking for intern profiles…

a. The past five years have seen active applications by interns to several companies.

b. The activity for intern profiling by the companies has reached a gradual

    downslide over the past five years.

c. There were lesser companies searching for intern profiles earlier, as compared to

    those in the recent five years.

d. Several companies have initiated intern profiling five times a year in the recent past.

**2.** Select the central idea of the paragraph likely to precede paragraph I.

a. Process of registering for internships

b. Knowing more about internships

c. Dos and Don’ts for an internship interview

d. Startups and internships

**3.** Based on your reading of paragraphs II-III, select the appropriate counter- argument to the given argument.

Argument: I don’t think you’ll be considered for an internship just because you’ve been the student editor and Head of Student Council.

a. I think I have a fair chance because I’m applying for a virtual position than an in-office

    one.

b. I have real-time experience in managing a team and many companies consider it

    more meritorious than a degree in Management.

c. I know that my stipend might be on the lower side but I think that it’s a good ‘earn

    while you learn’ opportunity.

d. Lot of metro-cities have a good percentage of positions open and I think I should

    definitely take a chance.

**4.** The survey statistics mention the average stipend, indicating that:

a. 50% interns were offered ₹85,000.

b. ₹7,000 was the lowest and ₹85,000 was the highest.

c. most interns were offered around ₹7,000.

d. No intern was offered more than ₹7,000.

**5.** The phrase ‘healthy traffic’ refers to the:

a. updates from portals about health and road safety.

b. statistics about adherence to traffic rules by the portals.

c. sizeable number of visitors to the portal per month.

d. monthly data about the health of internship applicants.

**6.** Read the two statements given below and select the option that suitably explains them.

(1) Established companies are reluctant to take too many interns on board.

(2) Probability of interns leaving the company for a variety of reasons, is high.

a. (1) is the problem and (2) is the solution for (1).

b. (1) is false but (2) correctly explains (1).

c. (1) summarises (2).

d. (1) is true and (2) is the reason for (1).

**Q3.** Choose a significant topic (Social /Environmental issues) that directly pertains to our current

circumstances for the project work to be done in Term 2. Listen to podcasts/interviews/ radio

or T.V documentary on the same topic and prepare a questionnaire (containing 12-15 ques) on

the same.

**WRITING**

**Q4.** Choose any one of the chapters given below and make a book cover on the same, on A3 size sheet:

* **The Last Lesson**
* **Lost Spring**
* **Deep Water**
* **My Mother at Sixty-Six**
* **The Third Level**

**Q5.** Prepare an attractive poster (A-3 size sheet) on the theme ‘Climate Change and the World in 2050’

**Q6.** The Minister of Surface Transport and Highways, Government of India, New Delhi has invited

financial and technical collaboration from well-known corporate houses for the upgrade of the existing highways and the construction of new high-tech highways and expressways**.**

Write a letter to the Editor of a national daily in about 120-150 words, lauding the decision. Give reasons to support the view that this decision will tremendously improve the highway infrastructure and boost the economy through better, more comfortable, and safer movement of passengers and cargo.

**Q7**. You are Minto Mathews, the President of the School’s Gardening Club. The club is organizing a drive for promoting gardening as a hobby and as environment conservation campaign. Draft a notice in about 50 words, for the school notice board, addressing the students of all classes, informing them about the drive and urging them to do their best to make it a success. Mention the proposed distribution of free saplings on the occasion and a talk on 'Useful Gardening Tips'.

**LITERATURE**

**Q8. Attempt the questions given below in 120-150 words each.**

1. “We’ve all a great deal to reproach ourselves with” said M.Hamel. Refer to the context and explain what he wanted to convey to his students.
2. Mukesh is not like the others. His dreams loom like a mirage amidst the dust of streets that fill his town Firozabad. Justify the statement in the light of contrast in the mindsets of Mukesh and the people of Firozabad.
3. ‘Imagination is a temporary refuge from reality’. Explain with reference to the chapter ‘The Third Level’.
4. Imagine the mother gets to know of the poet’s fears. Write a letter, as the mother, telling the daughter why she must not dwell on these fears. (My Mother at Sixty-Six)

**ECONOMICS**

**Date of submission: 26 June, 2025**

**A. Complete the following assignment in Economics notebook.**

**Assignment 1 (Macroeconomics)**

1. Make master formula list for unit 1 (National Income)

**Assignment 2 (Indian Economic Development)**

1. Describe briefly a rationale behind choosing ‘self-reliance as a planning objective for the Indian economy development.
2. Giving valid reasons, state whether the following statement are true or false
3. India followed unbalanced growth during the colonial period.
4. The economic policies implemented in India between 1950-1990’s sought to promote regional equality.
5. “Small scale industry requires a shield against large scale industry.” In the light of given statement, elaborate the steps initiated by government in this direction.
6. The traditional handicrafts industries were ruined under British rule. Do you agree with this view? Give reasons in support of your answer.
7. What is meant by import substitution in Indian economy?

**B. Make a project to analyse and evaluate Real World Economic Scenarios using theoretical constructs and arguments. The project should be of 3,500-4,000 words (excluding diagrams & graphs) and should be hand-written. It will be an independent, self-directed piece of study.**

**Scope of the project:**

Learners may work upon the following lines as suggested below:

1. Choose a title/topic.
2. Collection of the research material/data (questionnaire/ or case study) as instructed by the teacher
3. Organization of material/data
4. Present material/data
5. Analysing the material/data for conclusion
6. Draw the relevant conclusion.
7. Presentation of the Project Work

**Expected Checklist:**

• Introduction of topic/title

• Identifying the causes, consequences and/or remedies

• Various stakeholders and effect on each of them

• Advantages and disadvantages of situations or issues identified.

• Short-term and long-term implications of economic strategies suggested during research.

• Validity, reliability, appropriateness, and relevance of data used for research work and for

presentation in the project file.

• Presentation and writing that is succinct and coherent in project file.

• Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

**GEOGRAPHY**

**Date of submission: 27 June, 2025**

**1. Complete your Geography Practical file.**

Each student has to make a practical file representing various types of data representation techniques.

Instructions –

1. Use only A3 Size white interleaved sheets.
2. Use only thin tip black gel pen to write your practical. (Note blue pen is not allowed)
3. Write in neat and clean legible hand writing.

**2. Map Assignment**

Complete the given map activity given in your Geography register.

**(Fundamentals of Human Geography)-**

Unit-3 Ch. 5 to 7

CH 5

* Areas of subsistence gathering (Fig 4.2)
* Major areas of nomadic herding of the world (4.4)
* Major areas of commercial livestock rearing (4.6)
* Major areas of extensive commercial grain faming (4.12)
* Major areas of mixed farming of the World (4.14)

CH 7-Transport, Communication and Trade- Terminal Stations of Transcontinental Railways– Trans-Siberian, Trans Canadian, Trans-Australian Railways.

Major Sea Ports

• Europe: North Cape, London, Hamburg

• North America: Vancouver, San Francisco, New Orleans

• South America: Rio De Janeiro, Colon, Valparaiso

• Africa: Suez and Cape Town • Asia: Yokohama, Shanghai, Hong Kong, Aden, Karachi, Kolkata.

• Australia: Perth, Sydney, Melbourne

• Major Airports

• Asia: Tokyo, Beijing, Mumbai, Jeddah, Aden

• Africa: Johannesburg & Nairobi

• Europe: Moscow, London, Paris, Berlin and Rome

• North America: Chicago, New Orleans, Mexico City

• South America: Buenos Aires, Santiago

• Australia: Darwin and Wellington

• Inland Waterways

• Suez Canal, Panama Canal, Rhine waterways and St. Lawrence Seaways.

**(India - People and Economy)**

Ch. 1 to 4

State with highest population density & state with lowest population density (2011)

Leading producing states of the following crops: (a) Rice (b) Wheat (c) Cotton (d) Jute (e) Sugarcane (f) Tea and (g) Coffee.

CH 5 Mines:

• Iron-ore mines: Mayurbhanj, Bailadila, Ratnagiri, Bellary

• Manganese mines: Balaghat, Shimoga

• Copper mines: Hazaribagh, Singhbhum, Khetari

• Bauxite mines: Katni, Bilaspur and Koraput

• Coal mines: Jharia, Bokaro, Raniganj, Neyveli

• Oil Refineries: Mathura, Jamnager, Barauni

Mark and label the major seaports and airports on an outline map of India.

CH 8-

• Major Sea Ports: Kandla, Mumbai, Marmagao, Kochi, Mangalore, Tuticorin, Chennai, Vishakhapatnam, Paradwip, Haldia.

• International Airports: Ahmedabad, Mumbai, Bengaluru, Chennai, Kolkata, Guwahati, Delhi, Amritsar, Thiruvananthapuram & Hyderabad.

**3. Assignment – Questions**

**Complete the following assignment in your Geography notebook.**

1. State some examples of metaphors used to describe the physical and human phenomena.
2. Describe the fields and sub-fields of Geography and its inter-relationship with other fields.
3. Differentiate between Determinism and Possibilism.
4. Differentiate between Humanistic or Welfare School of Thought and Behavioural School of Thought.
5. Differentiate between Nomothetic and Ideographic Dualism.
6. What is the new concept of Griffith Taylor in the field of Human geography? Describe this concept with examples.
7. Which are the factors that influence the distribution of population in the world?
8. What are the three components of population change?
9. Distinguish between Push factors and pull factors of migration.
10. Discuss the three stages of demographic transition.
11. Explain the trends in population growth of the world with special reference to the help of science and technology.
12. What are footloose industries?
13. Discuss the major trends of modern industrial activities especially in the developed countries of the world.
14. Describe the factors that affect the location of industries.
15. Distinguish between small scale & large scale manufacturing industry.
16. What is cooperative farming? Explain few of its advantages.
17. “Dairy farming is the most advanced and efficient type of rearing of milch animal in the world ”. Analyse the statement with proper examples.
18. What are two different methods of mining? Explain the factors affecting mining activities in the world.
19. Explain any five significant characteristics of collective farming.
20. “Mediterranean Agriculture is highly specialized commercial agriculture.” Discuss the statement by giving suitable arguments.

# PSYCHOLOGY

**Date of submission: 30 June, 2025**

**Psychology holiday homework for class XII is to work on case study files as per the discussion done in the class. Here are some instructions and tips on how you can complete your case study project files:**

Creating a case profile for your Class 12 psychology project means evaluating an individual’s psychological state and summarizing what you learn along with possible suggestions. This activity allows you to put your classroom learning into action and better understand how psychological assessments work in real life. Use simple and clear language. Avoid overly technical terms unless you explain them. Here’s a simplified step-by-step guide to help you write your case profile:

**Step 1: Select an Individual**

1. Choose an individual to assess (with their consent and permission if needed, such as from

parents or guardians for minors).

2. The individual can be a peer, family member, or acquaintance.

**Step 2: Plan the Assessment**

1. Determine the Scope: Decide what aspects of the individual's behavior, thoughts, or feelings you want to examine.

2. Choose Assessment Tools: Plan to use methods such as interviews, questionnaires, or

behavioral observations.

**Step 3: Conduct the Assessment**

1. Collect Background Information: Gather data on the individual's background, including

personal history, education, social relationships, and any medical or psychological history.

2. Administer Assessment Tools: Conduct interviews or use questionnaires to gather information

on the individual's current situation and psychological functioning.

3. Observe Behavior: Take notes on the individual's behavior, emotions, and interactions during the assessment.

**Step 4: Analyze the Data**

1. Summarize Findings: Compile the data from your interviews, questionnaires, and observations.

2. Identify Patterns: Look for patterns in the data that provide insights into the individual's

psychological functioning.

3. Consider Possible Diagnoses: Based on your findings, consider any possible diagnoses or

Interpretations.

**Step 5: Write the Case Profile**

1. Introduction: Provide a brief introduction to the case, including the individual's basic information

(use a pseudonym for privacy) and the purpose of the assessment.

2. Presenting Issues: Describe the main issues or problems the individual is facing.

3. Background Information: Summarize the individual's background, including personal,

educational, and social history.

4. Assessment Methods: Describe the assessment tools and methods used.

5. Observations: Share your observations of the individual's behavior, emotions, and interactions.

6. Assessment Results: Present the results of your assessment, including any patterns or insights.

7. Possible Diagnosis: Provide your interpretation of the data, including any possible diagnosis.

8. Recommendations: Offer suggestions for interventions, strategies, or support based on your

findings.

9. Conclusion: Summarize the key points and your overall interpretation of the case.

10. Reflection: Reflect on your experience and what you learned from conducting the assessment.

**Step 6: Maintain Ethical Standards**

1. Confidentiality: Use pseudonyms and protect the individual's identity throughout the case profile.

2. Informed Consent: Ensure you have consent from the individual and, if applicable, their parents or guardians.

**Step 7: Review and Finalize**

1. Proofread: Check your case profile for spelling, grammar, and clarity.

2. Organize: Ensure the information is presented logically and coherently.

3. Revise: Make any necessary changes to improve the case profile.

By following these steps, you can create a comprehensive and ethical case profile for your Class 12

psychology project. This experience will help you develop critical thinking and assessment skills while applying psychological concepts to real-life situations.

**POLITICAL SCIENCE**

**Date of submission: 26 June, 2025**

**1. Complete the Project work consisting of following parts:**

* CERTIFICATE
* ACKNOWLEDGEMENT
* TABLE OF CONTENTS
* INTRODUCTION/OVERVIEW
* PRESENTATION
* CRITICAL ANALYSIS
* CONCLUSION
* BIBLIOGRAPHY

**Suggested Topics:**

1. Shock Therapy

2. Disintegration of USSR with special focus on Gorbachev.

3. Cover the negative as well as positive aspects of relationship between India and the following countries. Focus on any one of the following (current updates should be highlighted):

a) Relationship between India and China

b) Relationship between India and Pakistan

c) Relationship between India and Bangladesh

4.ASEAN

5. European Union and BREXIT

6. BRICS

7. SAARC

8. Partition of India

**2. Assigment Questions**

**Complete the following assignment in your Political Science notebook.**

Q.1 Analyze the role of State Reorganisation Commission in dealing with the different

demands for autonomy.

Q.2 Discuss the challenges posed by regionalism to the idea of national integration

in India. What measures can be taken to address regional aspirations while

maintaining national unity?

Q.3 Explain the concept of communalism and its impact on India's nation-building

process. How can communal harmony be promoted in a diverse society like

India?

Q.4 Critically evaluate the role of language in nation-building in India. How has

language been a source of both unity and division?

Q.5 "Discuss the features of the era of one-party dominance in India after Independence.

How did the dominance of the Congress party shape the political landscape of India

during this period? What were the challenges and advantages of one-party dominance

for democracy in India?"

Q.6 Analyze the impact of the Congress party's dominance on the opposition parties in India

during the post-Independence period. How did the Congress party's hegemony affect

the functioning of a multi-party democracy?

Q.7 Analyze the factors that led to the decline of the Congress system in India after the

1960s. How did internal and external challenges contribute to this decline?

Q.8 Discuss the impact of the 1967 general elections on the Congress party and Indian

politics. How did the emergence of non-Congress governments at the state level

reshape the political landscape?

Q.9 Evaluate the role of regional parties in challenging the dominance of the Congress party

during the 1970s and 1980s. How did regionalism influence Indian politics during this

period?

Q.10 Assess the legacy of the challenges and restoration of the Congress system in India. How

did this period influence the evolution of the Indian party system and democratic politics

in the country?

Q.11 Discuss the factors that led to the end of the Cold War and the emergence of a unipolar

world order. How did the collapse of the Soviet Union reshape global politics?

Q.12 Analyze the role of Mikhail Gorbachev in the end of the Cold War. How did his policies

of glasnost and perestroika contribute to the transformation of the international system?

Q.13 Evaluate the impact of the end of bipolarity on India's foreign policy. How did India

navigate the changing global dynamics and reposition itself in the post-Cold War World?

Q.14 Discuss the implications of the Gulf War of 1990-91 for the international order. How did

the conflict reflect the changing power dynamics in the post-Cold War era?

Q.15 Critically analyse the relations between India and China in detail.

**PHYSICAL EDUCATION**

**Date of submission: 27 June 2025**

**To be done in Record/Practical File.**

1. Practical-1: Fitness test administration for all items.
2. Practical-2: Procedure for Asanas, benefits & contraindication for any two Asanas for each lifestyle disease.
3. Practical-3: Procedure for administering Senior Citizen Fitness Test for 5 elderly family members.
4. Practical-4: Any one game of the student’s choice from the list below. Labelled diagram of field & equipment (Rules, Terminologies & Skills) of the same game.

Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket, Bocce & Unified Basketball (CWSN).

* Record File should be of the new pattern.

**Assignment**

**Complete the following assignment in P.ED notebook.**

1. Write about the objectives of intramural tournaments.

2. Discuss a method you would choose to spread health awareness and harmony in your area.

Support your answer with reasons.

3. Describe corrective measures for some common spinal postural deformities.

4. Write down the procedure and contraindications of Matsyasna in detail.

5. Discuss different types of tournaments.

6. Explain various benefits of Women’s participation in Sports.

7. As Mr. Kiren Raju, Sports Minister has ordered to popularize the game of Kabaddi among school students to develop their physical ability, Mr. Gopi, Physical Education Teacher of a reputed CBSE school has decided to conduct an Inter School Kabaddi tournament in his school premises after proper drawing of fixtures. He consulted the Management and the Principal to conduct the Tournament of Pro Kabaddi pattern but the PE teacher was not aware of Pro-Kabaddi Tournament. So he discussed it with the National Kabaddi Referee Association.

1. Which of the following is the best method to organize this kind of tournament?

(a) Knock out

(b) League

(c) Ladder

(d) Pyramid

2. The Knock out tournament is also known as

(a) Combination tournament

(b) Elimination tournament

(c) League tournament

(d) League cum knockout tournament

3. If 17 teams are participating in this tournament, how many teams will get bye?

(a) 15

(b) 1

(c) 13

(d) 9

4. The League tournament is also known as

(a) Knock out tournament

(b) Round Robin tournament

(c) Combination tournament

(d) Elimination tournament

**APPLIED MATHEMATICS**

**Date of submission: 27 June 2025**

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| 1. | Let 𝐴 = . If xyz =7 , x + y - 6z =11 and I is the identity matrix of order 2. Then , A. adjA is equal to |
|  | (a)7I (b) -5I (c)13I (d) −8I |
| 2. | Let the cost function for a manufacturer is given by ***C* (*x*) =**  + 2*x*  (a) The marginal cost decreases from 0 to 1 and then increases onwards.  (b) The marginal cost increases from 0 to 1 and then decreases onwards.  (c) Marginal cost decreases as production level increases from zero.  (d) Marginal cost increases as production level increases from zero. |
| 3. | If A is a square matrix of order 2 and |adj.A |= 9, then |A| is equal to |
|  | (a)3 (b) 9 (c) 27 (d) 81 |
| 4. | For what value of k, the matrix has no inverse? |
| 5. | If A is square matrix satisfying A2 = I, then what is the inverse of A ? |
| 6. | If A is non singular matrix of order 3 and |A| = 3, then find |2A|. |
| 7. | The volume of a sphere is increasing at the rate of 8 cm3/s. Find the rate at which its surface area is increasing when the radius of the sphere is 12 cm. |
| 8. | State the condition under which the following equations have a unique solution:  x + 2y – 2z + 5 = 0  -x + 3y + 4 = 0  -2y + z – 4 = 0  Using Martin’s rule , find the unique solution of the above system of linear equations. |
| 9. | Find 316 (mod 4). |
| 10. | Find the intervals in which the function f(x) = 3x4 – 4x3 – 12x2 + 5 is (i) strictly increasing. (ii) strictly decreasing. |
| 11. | Prove that the function f(x) = x2 – x + 1 on (-1,1) , is neither increasing nor decreasing function. |
| 12. | Prove that the function f(x) = x3 + x2 + x + 1 has neither maxima nor minima. |
| 13. | Find the remainder when 987 + 876 + 765 + 654 + 543 + 432 + 321 + 210 is divided by 6. |
| 14. | Find the least value of a, so that the function f(x) = x2 + ax + 1 is strictly increasing on [1,2]. |
| 15. | A and B are invertible matrices of the same order such that (AB)-1 = 8. If |A| = 2, then what is the value of |B|? |
| 16. | Find the intervals in which the function f(x) = -2x3 – 9x2 – 12x + 1 is (i) strictly increasing (ii) strictly decreasing |
| 17. | Find the last three digits of the product 1234 X 5678. |
| 18. | The sum of three numbers is 20. Id we multiply first number by 2 and add the second number to the result and subtract the third number, we get 23. By adding second and third numbers to three times the first number, we get 46. Represent the above problem algebraically and use Cramer’s rule to find the numbers from these equations. |
| 19. | **CASE STUDY - 1** |
|  | Profit growth - Free business and ...P(x) = -5x2 + 125x + 37500 is the total profit function of a company, where x is the production of the company.  Based on the above information answer the following questions:  (a) What will be the production when the profit is maximum?  Also, what will be the maximum profit?  (b) Find the interval in which the profit is strictly increasing?  (c) What will be the production of the company if the profit is  Rs 38250? |
| 20. | **CASE STUDY - 2** |
|  | Boost Vitamin D Naturally: Meal Plan ...A diet is to contain 30 units of Vitamin A, 40 units of Vitamin B and 20 units of Vitamin C. Three types of food F1, F2 and F3 are available. One unit of food F1 contains 3 units of Vitamin A, 2 units of Vitamin B and 1 unit of Vitamin C. One unit of food F2 contains 1 unit of Vitamin A, 2 units of Vitamin B and 1 unit of Vitamin C. One unit of food F3 contains 5 units of Vitamin A, 3 units of Vitamin B and 2 units of Vitamin C.  Based on the above information answer the following questions:  (a) If the diet contains x units of food F1, y units of food F2 and z units of food F3. Write the matrix equation representing the above situation.  (b) If A is the coefficient matrix in above situation, then what is the value of |adj A| ?  (c) What are the values of x,y and z in the given situation?  (d) What is A.(adj A) ? |

**PAINTING**

**Date of submission: 27 June 2025**

Practical -

1.Make a composition on village life including minimum 3 figures.

2.Make a composition on daily activities like cooking, washing etc.

3. Make a still life including 5 objects.

Theory:

Make an assignment on the topic "Six Limbs in art".