

DHANGAWAN, JEHANABAD (BIHAR) - 804408 SUMMER VACATION ASSIGNMENT(2025) CLASS - XII(COMMERCE)

<u>Sub: - MATHEMATICS</u>

ESTD 1886

- . Prove that the Greatest Integer Function $f: R \rightarrow R$, given by f(x) = [x] is neither one-one nor onto. Where [x] denotes the greatest integer less than or equal to x.
- 2. Let *A* = {1, 2, 3}, *B* = {4, 5, 6, 7} and let *f* = {(1, 4), (2, 5), (3, 6)} be a function from *A* to *B*. Show that *f* is one-one.
- 3. Let the function $f: R \rightarrow R$ be defined by $f(x) = \cos x \quad \forall x \in R$. Show that *f* is neither one-one nor onto.
- 4. Show that the binary operation *, $N \times N \rightarrow N$, given by a * b = a + b ab is not a valid opertion but the operation a * b = a + b + ab is a valid operation.
- 5. Show that the relation R in the set of real numbers, defined as R = {(a, b) : a ≤ b²} is neither reflexive nor symmetric nor transitive.
- 6. Show that the Signum Function f : $\mathbb{R} \to \mathbb{R}$, given by f(x) = nor onto. $\begin{cases} 1, \text{ if } x > 0 \\ 0, \text{ if } x = 0 \\ -1, \text{ if } x < 0 \end{cases}$
- 7. Let A and B be sets. Show that $f : A \times B \rightarrow B \times A$ such that f (a, b) = (b, a) is bijective function.
- 8. Let *T* be the set of all triangles in a plane with *R* a relation in *T* given by $R = \{(T_1, T_2) : T_1 \cong T_2\}$. Show that *R* is an equivalence relation.
- 9. Show that the relation *S* in the set *R* of real numbers, defined as $S = \{(a, b) : a, b \in R \text{ and } a \le b^3\}$ is neither reflexive, nor symmetric, nor transitive.
- ² 10. Let *N* be the set of all natural numbers and let *R* be a relation on $N \times N$ defined by (a,b) R(c,d)ad=bcforall $(a,b), (c,d) \in N \times N$. Show that *R* is an equiv alence relation on $N \times N$.

- 11. A relation defined in a non-empty set *A*, having *n* elements, has
 - (a) n relations (b) 2 relations
 - (c) n^2 relations (d) 2^{n^2} relations
- 12. The relation R in the set of real numbers defined as $R = \{(a, b) \in R \times R : 1 + ab > 0\}$ is
 - (a) reflexive and transitive
 - (b) symmetric and transitive
 - (c) reflexive and symmetric
 - (d) equivalence relation
- 13. Let the function 'f' be defined by $f(x) = 5x^2 + 2$, $\forall x \in R$. Then 'f' is
 - (a) onto function
 - (b) one-one, onto function
 - (c) one-one, into function
 - (d) many-one, into function
- 14. Let Z be the set of integers. Define a binary operation * in Z × Z as (a, b) * (c, d) = (a + c, b + d), then binary operation * is
 - (a) not commutative
 - (b) not associative

- (c) commutative and associative
- (d) does not have identity element
- 15. Let set X = {1, 2, 3} and a relation R is defined in X as : R = {(1, 3), (2, 2), (3, 2)}, then minimum ordered pairs which should be added in relation R to make it reflexive and symmetric are

- (b) $\{(3, 3), (3, 1), (1, 2)\}$
- (c) $\{(1, 1), (3, 3), (3, 1), (2, 3)\}$
- (d) $\{(1, 1), (3, 3), (3, 1), (1, 2)\}$
- 16. Let R be a relation defined as R = {(x, x), (y, y), (z, z), (x, z)} in set A = {x, y, z} then relation R is (a) reflexive (b) symmetric
 - (c) transitive (d) equivalence
- 17. If R = {(x, y) : x + 2y = 8} is a relation on N, then
 range of R is
 (a) {3}
 (b) {1, 2, 3}
 - (c) {1, 2, 3, 8} (d) {1, 2}
- 18. Let A = {a, b, c}, then the total number of distinct relations in set A are
 - (a) 64 (b) 32 (c) 256 (d) 512
- 19. Consider the set A containing n elements, then the total number of injective functions from set A onto itself is/are
 - (a) n (b) n^{n} (c) $\frac{n}{2}$ (d) n!

If f (x) = $\frac{x-1}{|x-1|}$, x($\neq 1$) \in R then range of 'f' is

- (i) {-1, 1}
- (ii) {-1}
- (iii) R
- (iv) 1
- 21. Let R be a relation in the set of natural numbers
 N defined by R = {(a, b) ∈ N × N : a < b}. Is
 relation R reflexive? Give a reason.

22. Let $f : R \rightarrow R$ is defined by f(x) = |x|. Is function f onto? Give a reason.

- 23. A relation S in the set of real numbers is defined as $xsy \Rightarrow x y + \sqrt{3}$ is an irrational number, then relation S is
 - (a) reflexive

- (b) reflexive and symmetric
- (c) transitive
- (d) symmetric and transitive
- 24. Let A be any non-empty set and P(A) be the power set of A. A relation R defined on P(A) by $X R Y \Leftrightarrow X \cap Y = X, X, Y \in P(A)$. Examine whether R is symmetric.
- 25. Set A has 3 elements and the set B has 4 elements. Then the number of injective functions that can be defined from set A to set B is
 - (a) 144 (b) 12 (c) 24 (d) 64

Sub: - ACCOUNTANCY

- 1. Write down the Rights of the partners.
- 2. Write down the five features of Partnership.
- 3. What is Goodwill? Write down its features.
- 4. Write down the factors affecting value of Goodwill.
- 5. How Average profit method is different from super profit method.
- 6. Distinguish between Gaining Ratio and Sacrificing Ratio.
- 7. Write down the meaning of Deferred Revenue Expenditure.
- 8. Distinguish between Drawings against Capital and Drawings against profit.
- 9. What is Profit and loss Appropriation account?
- 10.Distinguish between Average profit and Super profit.
- 11.Complete all practical questions upto the chapters taught.

Sub: - ECONOMICS

- 1. Highlight the salient features of India's preindependence occupational structure.
- 2. State main features of Indian economy at the time of Independence.
- 3. To what extent have the plans succeeded in accelerating the pace of growth of the Indian economy?
- 4. calculate

a) Gross Value Added at Market Price, and

b) National Income from the following data

Items	₹ in Lakh
I) Value of Output:	
a) Primary Sector	800
b) Secondary Sector	200
c) Tertiary Sector	300
 Value of intermediate inputs 	
purchased by	400
a) Primary Sector	100
b) Secondary Sector	50
c) Tertiary Sector	
III) Indirect taxes paid by all sectors	50
IV) Consumption of fixed capital of all	80
sectors	
V) Factor income received by all the	10
residents from rest of the world	
VI) Factor income paid to non-	20
residents	20
VII) Subsidies received by all sectors	

- 5. An ambassador in US Embassy in India stays in his job for a period exceeding one year. Would he be treated as a resident or non- resident of India? Give reason.
- 6. As a student of Economics, how would you distinguish between capital goods and capital stock?
- 7. State any three of precautions that are necessary while estimating the national income by value added method.

Sub: - B.Studies

- 1. Define management. Explain how it helps in achieving group goals.
- 2. Differentiate between effectiveness and efficiency with suitable examples.
- 3. Discuss any four features of management with examples.
- 4. "Management is both an art and a science." Justify the statement.

- 5. Explain the levels of management and the main functions performed at each level.
- Who was Henri Fayol? Explain any four principles of management given by him.
- What is Scientific Management? Explain any two techniques of scientific management introduced by F.W. Taylor.
- 8. "Principles of management are flexible in nature." Explain with example.
- 9. Differentiate between Unity of Command and Unity of Direction.
- 10. What do you understand by Business Environment? Briefly explain any four dimensions of business environment with suitable examples.

<u>Sub: - ENGLISH</u>

Instructions: Answer all the questions.

1. Letter of Invitation

Write a formal letter inviting your school principal to the annual cultural event organized by your class. Mention the date, time, and program details.

2. Job Application Letter

Draft a job application letter for the position of a Content Writer at a reputed publishing house. Include your qualifications, skills, and relevant experience.

3. Summary of the Text

Read the following passage carefully and write a summary in about 50 words, highlighting its main points without any personal opinions.

Tensions along the India-Pakistan border have escalated into open conflict over the past fortnight. Following a disputed airspace violation, both nations mobilized additional troops and deployed advanced missile systems within the contested Kashmir region. Civilians in nearby towns face frequent power outages and intermittent communication blackouts, while aid organisations struggle to deliver food and medical supplies amid heavy shelling. Despite repeated appeals from the United Nations and neighbouring countries for an immediate ceasefire, diplomatic talks have stalled over disagreements on prisoner exchanges and demarcation of control lines. Schools and markets in border districts remain closed, and an estimated 150,000 residents have evacuated to makeshift camps set up in safer hinterlands. Journalists report scenes of shattered homes, fields scorched by artillery fire, and the wail of air-raid sirens piercing the night sky. Humanitarian agencies warn that without a swift resolution, the conflict could trigger a regional refugee crisis and further destabilise South Asia. Meanwhile,

social media platforms are flooded with eyewitness accounts and unverified footage, fuelling outrage and hardening public opinion on both sides. As winter approaches, the humanitarian toll is expected to rise unless diplomatic channels reopen and a lasting ceasefire is secured.

4. Word Meanings

Choose the correct meaning of the following words from the given options:

- 1. Impeccable
- i) Flawless ii) Uncertain iii) Tedious iv) Decorative

2. Benevolent i) Kind-hearted ii) Aaaressive iii) Neutral iv) Deceptive 3. Vivid i) Dull ii) Clear iii) Complex iv) Hidden 4. Eloquent i) Reserved ii) Fluent iii) Clumsy iv) Shy 5. Resilient i) Fragile ii) Adaptable iii) Stubborn iv) Unmoving 6. Exquisite i) Ordinary ii) Beautiful iii) Cheap Iv) Confusing 7. Prodigious i) Small ii) Huae iii) Unnecessary iv) Common 8. Melancholy i) Joyful ii) Gloomy iii) Inquisitive iv) Confident 9. Ephemeral i) Permanent ii) Brief iii) Unchanging iv) Complex 10. Audacious i) Timid ii) Brave iii) Pessimistic iv) Lazy Sub: - HINDI

- 1. हिंदीभाषामें प्रकाशित किन्हीं पांच समाचारपत्रोंकेनाम लिखिए।
- 2. हिंदीभाषाकीचर्चित पांच पत्रिकाओं के नाम लिखिए।
- 3. महादेवीवर्मा रचित प्रसिद्ध पुस्तकों के नाम लिखिए।
- हरिवंशरायबच्चन रचित प्रसिद्ध मधुशाला कीबीसपंक्तियां लिखिए।
- 5. मनोहरश्याम जोशी अथवा जैनेन्द्र कुमार रचित प्रसिद्ध पुस्तकों के नाम लिखिए।
- हिंदीभाषा एवं साहित्य से जुड़े विभिन्न पुरस्कारोंके नाम लिखिए।
- नईशिक्षानीति अथवा लोकतंत्र में मीडिया कीभूमिका विषय पर निबंध लिखिए।
- 8. मनुष्यके सर्वांगीण विकास में भाषाकीमहतीभूमिका है ______इसविषय पर अपने विचार व्यक्त कीजिए।

 किसीकविता काभावसौंदर्य या भावार्थ अच्छी तरह लिखिए।
 10.सिल्वरवेडिंग अथवा बाजार दर्शन पाठकाउद्देश्य स्पष्ट कीजिए।

<u>Sub: - I.P</u>

- 1. Write the difference between Series Object and Lists.
- 2. What is the difference between Series Object and 1D Ndarray
- 3. Write a program to create a Series object that stores the initial budget allocated (50000/each) for the four quarters of the year: Qtr1, Qtr2, Qtr3 and Qtr4.
- Total number of medals to be won is 200 Inter University games held every alternate year.
 Write code to create a Series object that stores these medals for games to be held in the decade 2020 – 2029.
- 5. Write a program to create a Series object using a dictionary that stores the number of students in each section of class 12 in a school
- 6. Write four attributes of Series objects.
- 7. Define Data Structure.
- 8. Write a program to create a Series object using individual characters 'a', 'e', 'i', 'o', 'u'.
- Write a program to create a Series object using an ndarray that is created by tiling a list[3,5], (twice)
- 10. Write the code to set the index name.

Sub: - PHY.EDUCATION

- 1. Define the term fixture. Explain briefly various types of tournaments.
- 2. League tournament is a better way to judge the best team of tournament. Comment
- 3. Draw a fixture of 19 teams for a Knockout tournament.
- 4. Draw a fixture of 8 teams for league tournaments
- 5. Write the name of different committee to conduct a tournament & explain any four of them.