**MODERN PUBLIC SCHOOL**
**SEC – 37 FARIDABAD**
**HOLIDAY HOMEWORK(2025-26)**
**CLASS – XII**

**Q.1 Make a project file in java of 15 programs by using different topics and take print out of the file with output.**

**Use following Topics –**

- **Program using variable and operators**
- **If-else statement**
- **Switch statement**
- **While loop**
- **Do- While loop**
- **For loop**
- **Array**
- **Array Manipulation**
- **Binary Search**
- **User defined**
- **String Manipulation**

MODERN PUBLIC SCHOOL

Sec-37 Faridabad

Class – 12 th( 2025-26)

SUB-ACCOUNTANCY

Holiday Homework

Ques – 1 Mona, Nisha and Priyanka are partners in a firm. They contributed 50,000 each as capital three years ago. At that time. Priyanka agreed to look after the business as Mona and Nisha were busy. The profits for the past three years were₹ 15,000, 25,000 and 50,000 respectively. While going through the books of accounts, Mona noticed that the profit had been distributed in the ratio of 1:1:2. When she enquired from Priyanka about this, Priyanka answered that since she looked after the business, so she should get more profit. Mona disagreed and it was decided to distribute profit equally retrospectively for the last three years.

(a) You are required to make necessary corrections in the books of accounts of Mona, Nisha and Priyanka by passing an adjustment entry.

(b) Identify the value which was not practiced by Priyanka while distributing profits.

Ques-2 Monika, Bhoomika and Kamolika are partners sharing profits in the ratio of 6:4:1. Kamolika is guaranteed a minimum amount of ₹3,00,000 as her share in profits. The firm earned a net profit of ₹22,00,000 for the year ended 31 March 2022 Prepare Profit and Loss Appropriation Account of the firm for the year ended 31 March, 2022.

Ques-3 Yash and Karan were partners in an interior designer firm. Their fixed capitals were ₹6,00,000 and ₹4,00,000 respectively. There were credit balance in their Current Accounts of ₹4,00,000 and ₹5,00,000 respectively. The firm had a balance of₹ 1,00,000 in General Reserve. The firm did not have any liability. They admitted Radhika into partnership for 1/4th share in the profits of the firm. The average profits of the firm for the last five years were ₹5,00,000. Calculate the value of goodwill of the firm by capitalisation of average profits method. The normal rate of return in the business is 10%.

Ques-4 Anu, Manu, Sonu and Rohan were partners in a firm sharing profits and losses in the ratio of 1:2:1:2. With effect from 1 April, 2023, they decided to share profits and losses in the ratio of 2:4:13. Their Balance Sheet showed General Reserve of 90,000. The goodwill of the firm was valued at 4,50,000. Pass necessary journal entries for the above on account of change in the profit sharing ratio. Show your workings clearly

Ques-5 Atal and madan were partners in a firm sharing profits and losses in the ratio of 5:3. On 31-03-2011 they admitted mehra as a new partner for 1/5$^{th}$ share in the profits. The new profit-sharing ratio in 5:3:2. On mehra's admission the balance sheet of the firm was as follows.

| Liabilities | | Amt. (₹) | Assets | Amt. (₹) |
|---|---|---|---|---|
| Provision for Bad Debts | | 1,200 | Land and Building | 1,50,000 |
| Creditors | | 20,000 | Machinery | 40,000 |
| Workmen Compensation Fund | | 32,000 | Patents | 5,000 |
| Capital A/cs: | | | Stock | 27,000 |
| Atal | 1,50,000 | | Debtor | 47,000 |
| Madan | 90,000 | 2,40,000 | Cash | 4,200 |
| | | | Profit and Loss Account | 20,000 |
| | | 2,93,200 | | 2,93,200 |

On Mehra's admission, it was agreed that:

(a) Mehra will bring 40,000 as his capital and 16,000 for his share of goodwill premium, half of which was withdrawn by Atal and Madan.

(b) A provision of 2.5% for bad and doubtful debts was to be created.

(c) Included in the sundry creditors was an item of 2,500 which was not to be paid.

(d) A provision was to be made for an outstanding bill for electricity 3,000.

(e) A claim of 325 for damages against the firm was likely to be admitted. Provision for the same was to be made.

After the above adjustment, the capitals of Atal and Madan were to be adjusted on the basis of Mehra's capital. Actual cash was to be brought in or to be paid off to Atal and Madan as the case may be. Prepare Revaluation Account, Capital Accounts of the partners and the Balance Sheet of the new firm.

**Modern Public School**

**Holiday Homework (2025-26)**

**Class XII Sub- English**

Q1. You are Gaurav Garg/Gauri Garg, the owner of a grocery shop, Faridabad. Due to insufficient number of customers and low income and profit rates, you have decided to shut down your store. Write a notice in about 45-50 words informing all the customers about the same and the discount offered on all the grocery products.

Q2. Villages are lacking in basic facilities like clean drinking water, proper sanitation, medical aids etc. As a result people suffer from various diseases. Write an article in 150-200 words on 'Rural Health'. You are Sarika/Sumit.

Q3. You are Amit/Amita staying at Sunrise Apartments, Gymkhana Road, Pune. The main road leading to this colony has three open manholes causing frequent accidents at night. The street light is also not available. Write a letter to the Editor of 'The Times of India' expressing your concern about the apathy of the authorities towards this situation. Also suggest ways to mobilise city dwellers, with the help of school children, for the cause of safe roads.

Q4. If you could teach a fear to someone else, what lesson would you learn from ' Deep water' about overcoming the fear.

Q5. Evaluate the theme of linguistic chauvinism as reflected in the story 'The Last Lesson'.

Q6. Analyse the portrayal of power and its consequences in the story 'The Tiger King' by Kalki.

Q7. Prepare a project file on the topics discussed in class.Make it neatly and show your creativity.

# Holiday Homework

## Class XII

## Subject Business Studies

Q.1. Two Big Banner Movies were scheduled to be released on the same date. However, at the last moment release of one movie had to be postponed due to opposition by a group of people because of some unethical content in the movie. The loss suffered by movie postponed, provided opportunity for the released movie, to earn huge revenues. Which feature of business environment is highlighted in the given case?

Q. 2. In an environment of rising petroleum prices and a large middle class population in India, KV Motors ( recognized the need for small cars in India. It created a product far superior than their competitors nor only in terms of quality but also in terms of overall driving experience. It soon became the leader in the small car market. As the Indian government was encouraging foreign Investment, MNCs having ab name in car manufacturing entered the Indian market. KV Motors further expanded its service network and quality, creating an entry barrier for the competitors. It depicted its strengths through various brand-building activities. As a result, the market share of KV Motors is refusing to go down in spite of all major automakers as its competitors. Quoting the lines, explain any two points of importance of Business Environment being highlighted in the above case.

Q. 3. "With increase in birth rate and fall in death rate, the infants now have bigger share in composition of population. It has increased the demand for baby products, like milk bottles, toys, etc. Identify the component of business environment.

Q.4. Identify the type or dimension of environment in the following cases:

(i) It includes factors like money supply, price level, monetary policy, etc.

(ii) Increased awareness towards health has increased the demand for organic food.

(iii) A stable government builds up confidence among the firms to invest in big projects.

(iv) With changes in demand of consumers, business firms have to change their production schedule.

(v) Nature of relationship of our country with foreign countries influences the business.

(vi) Statuary warnings are essential to be printed on tobacco and cigarette labels

(vii) Innovations in products and processes affect the production and marketing plans of the business.

(viii) Life expectancy, birth and death rates influence the volume of demand.

(ix) Rates of savings and investments influence the demand for the product.

(x) Consumption habits of people affect the pattern of demand in the economy

Q.5. The government of India announced Demonetisation of 500 and 1,000 currency notes with effect from the midnight of November 8, 2016. As a result, the existing 500 and ₹ 1,000 currency notes ceased to be legal tender from that date. New currency notes of the denomination of 500 and 2,000 were issued by Reserve Bank of India after the announcement. This step resulted in a substantial increase in the awareness about and use of Point of Sale machines, e-wallets, digital cash and other modes of cashless transactions Also, increased transparency in monetary transactions and disclosure led to a rise in government revenue in the form of tax collection.

a. Enumerate the dimensions of business environment highlighted above.

b. State the features of Demonetisation.

Q.6. Make a project file of 30 to 35 pages on topic discussed in the class. Use A4 sheets

(i) Make a Introduction page

(ii) Certificate Page

(iii) Acknowledgement page

(iv) index page

(v) Bibliography page

# मॉडर्न पब्लिक स्कूल

## ग्रीष्मावकाश गृहकार्य (2025 -26)

## कक्षा - बारहवीं

## विषय-हिंदी

प्र 01. पाठ -3,4,5 के लघु प्रश्न कीजिए। (अभिव्यक्ति और माध्यम )

प्र 02. हिंदी साहित्य का इतिहास विषय पर परियोजना बनाइए ।

प्र 03. उत्तर प्रदेश के उन्नाव जिले में एक बस दुर्घटना विषय पर समाचार लिखिए।

प्र 04. मेरी भाषा मेरा गौरव" विषय पर रचनात्मक लेखन लिखिए ।

प्र 05. सुभागी को आप किस प्रकार की स्त्री मानते हैं ? आप ऐसी स्त्रियों की दशा सुधारने के लिए आप क्या करने के सुझाव देंगे ?

MODERN PUBLIC SCHOOL SEC.37 FBD
CLASS XII SUB. MATHS
(HOLIDAY HOMEWORK 2025-26)

# RELATION AND FUNCTIONS

## VERY SHORT ANSWER TYPE QUESTIONS (1 MARKS)

**1.** Is the relation R in the set A = {1, 2, 3, 4, 5} defined as R = {(a, b) : b = a + 1} reflexive?
**[Ans. No, R is not reflexive]**

**2.** Find the total number of all onto functions from the set {1, 2, 3, …… , n} to itself.

**3.** If f: {1, 3} → {1, 2, 5} and g: {1, 2, 5} → {1, 2, 3, 4} be given by
f = {(1, 2), (3, 5)}, g = {1, 3), (2, 3), (5, 1)}
Write down g o f. **[Ans. gof = {(1, 3), (3, 1)]**

**4.** If f: R → R is given by f(x) = $(3 - x^3)^{1/3}$, then defective f(f(x)). **[Ans. f(f(x)) = x]**

**5.** If f(x) = $\frac{x}{x+1}$ ∀ x ≠ -1, write fo f(x). **[Ans. (fof) (x) = $\frac{x}{2x+1}$, x ≠ $\frac{1}{2}$]**

**6.** Let *is a binary operation defined on R, then if
i) a * b = a + b + ab, write 3 * 2
ii) a * b = $\frac{(a+b)^2}{3}$, write (2 * 3) * 4
iii) a * b = $4a - 9b^2$, write (1 * 2) *3 **[Ans. (i) 3 * 2 = 11, (ii) $\frac{1369}{27}$ (iii) - 209]**

**7.** Find fog(x), if f(x) = |x| and g(x) = |5x – 2|. **[Ans. |5x – 2|]**

**8.** If n(A) = n(B) = 3. Then how many bijective functions from A to B can be formed? **[Ans. 6]**

**9.** If f: R → R is defined by f(x) = 3x + 2, define f[f(x)]. **[Ans. 9x + 8]**

**10.** If f(x) = x + 7 and g(x) = x – 7, x ∈ R, then find fog(7). **[Ans. 7]**

**11.** If f: A → B is bijective function such that n (A) = 10, then n (B) = ? **[Ans. n(B) = 10]**

**12.** If f(x) is an invertible function, then find the inverse of f(x) = $\frac{3x-2}{2}$.
**[Ans. $\frac{5x+2}{3}$]**

**13.** If '*' is a binary operation on set Q of rational numbers given by a * b = $\frac{ab}{5}$ then write the identity element in Q.
**[Ans. e = 5]**

**14.** If the mapping f and g are given by f = {(1, 2),(3, 5), (4, 1)] and g = {(2, 3),(5, 1), (1, 3)}, then write fog.
**[Ans.{(2, 5), (5, 2), (1, 5)]**

**15.** If * is Binary operation on N defined by a * b = a + ab ∀ a, b ∈ N. Write the identity element in N it is exists. **[Ans. Identity element does not exist]**

**16.** Which one of the following graph represents the function x? Why?

**17.** If f is an invertible function, defined as f(x) = $\frac{3x-4}{5}$, write $f^{-1}$ (x). **[Ans.** $\frac{5x+4}{3}$**]**

## SHORT ANSWER TYPE QUESTIONS (4 MARKS)

**1.** See f: R - $\left\{\frac{-4}{3}\right\}$ → R - $\left\{\frac{4}{3}\right\}$ be a function given by f(x) = $\frac{4x}{3x+4}$. Show that f is invertible with $f^{-1}(x)$ = $\frac{4x}{4-3x}$.

**2.** Let f: R →R be defined as f(x) = 10x + 7. Find the function g: R → R such that gof = fog = $I_g$.. **[Ans.** $\frac{x-7}{10}$**]**

**3.** Let f: R → R be the function defined by f(x) = $x^3$ + 5. Show that f(x)is invertible. Find $f^{-1}(x)$.

**[Ans. $(x-5)^{1/3}$]**

**4.** Show that function f: A →B defined as f(x) = $\frac{3x+4}{5x-7}$ where A = R - $\left\{\frac{7}{5}\right\}$, B = R - $\left\{\frac{3}{5}\right\}$ is invertible and hence find $f^{-1}$. **[Ans. $f^{-1}(x)$** = $\frac{7x+4}{5x-3}$**]**

**5.** Show that the relation R on the set R of real numbers, defined as R = {(a, b): (a ≤ $b^2$} is neither reflexive nor symmetric nor transitive.

**6.** If *is a binary operation defined on R – {0} defined by a * b = $\frac{2a}{b^2}$, then check * for commutativity and associativity. **[Ans. Neither Commutative nor Associative]**

**7.** If the function f: (1, ∞) → [1, ∞) defined by f(x) = $2^{x(x-1)}$ is invertible, then find $f^{-1}(x)$.

**8.** Prove that the relation R in the set A = {1, 2, 3, ….., 12} given by R = {(a, b): |a – b| is divisible by 3}, is an equivalence relation. Find all elements related to the element 1. **[Ans. 1, 4, 7, 10]**

**9.** If A = N × N and binary operation * is defined on A as
(a, b) * (c, d) = (ac, bd).
   i) check * for commuativity and associativity. **[Ans. Commutative and Associative]**
   ii) Find the identity element for * in A (if it exists). **[Ans. (1, 1) is identity in N × N]**

**10.** Consider the binary operation* on the set {1, 2, 3, 4, 5} defined by a*b = min{a, b}. Write the operation table of the operation*.

**11.** Show that the relation R on the set Ƶ of integers given by R = {(a, b): 3 divides a – b|, is an equivalence relation.

**12.** Consider the binary operation * on the set {1, 2, 3, 4, 5} defined by a * b = HCF of a and b. Write the operation table of the operation *. Is * commutative? Justify.

**13.** Is * defined on the set {1, 2, 3, 4, 5} by a * b = LCM of a and b, a binary operation? Justify your answer.

**[Ans. No]**

**14.** Let * be a binary operation on set Q defined by a * b = $\frac{ab}{4}$. Show that
   i) 4 is the identity element of * on Q.
   ii) Every non zero element of Q is invertible with.

$a^{-1} = \frac{16}{a}$, $a \in Q - \{0\}$

**15.** Consider $f : R_+ \to [-5, \infty)$ given by $f(x) = 9x^2 + 6x - 5$ show that f is invertible with $f^{-1} = \frac{\sqrt{x+6}-1}{3}$.

**16.** If $f(x) = \frac{4x+3}{6x-4}$, $x \neq \frac{2}{3}$, then show that $fof(x) = \underline{x}$, $\forall\, x \neq \frac{2}{3}$. What is the inverse of $f$?

**17.** Let T be the set of all triangles in a plane with R as relation in T given by $R = \{T_1, T_2): T_1 \cong T_2\}$. Show that R is an equivalence relation.

**18.** Consider f: $R \to [4, \infty]$ given by $f(x) = x^2 + 4$. Show that f is invertible with the inverse ($f^{-1}$) of f given by $f^{-1}(y) = \sqrt{y-4}$, where $R_+$ is the set of all non-negative real numbers.

**19.** A binary operation '*' on R = {-1}, defined as $a * b = \frac{a}{b+1}$

Is '*' commutative or associative? Justify your answer. **[Ans. '*' is not Associative on R- {-1}]**

**20.** If f, g : R →R defined by $f(x) = x^2 - x$ and $g(x) = x + 1$ find (fog) (x) and (gof) (x). Are they equal?

**[Ans. (fog) (x) = $x^2 + x$, (gof) (x) = $x^2 - x + 1$]**

**21.** Is the binary operation defined on set N, given by $a * b = \frac{a+b}{2}$ for all a, b ∈ N, commutative? Is the above binary operation associative? **[Ans. '*' is not Associative]**

**22.** Show that $f$: N → N, given by

$$f(x) = \begin{cases} x+1, \text{if } x \text{ is odd} \\ x-1, \text{if } x \text{ is even} \end{cases}$$ is both one-one and onto.

Also, find f(12) and f(15).

**23.** If: R → R, g: R → R given by f(x) = [x], g(x) = |x| then find

(fog) $\left(\frac{-2}{3}\right)$ and (gof) $\left(\frac{-2}{3}\right)$ **[Ans. (fog) $\left(\frac{-2}{3}\right)$ =0, (gof) $\left(\frac{-2}{3}\right)$ = 1]**

## LONG ANSWER TYPE QUESTIONS (6 MARKS)

**1.** If $f(x) = \sqrt{x}(x \geq 0)$ and $g(x) = x^2 - 1$ are two real functions, than find fog and gof and check whether fog = gof.

**2.** A binary operation * on the set {0, 1, 2, 3, 4, 5} is defined as:

$$a * b = \begin{cases} a+b, \text{If } a+b<6 \\ a+b-6, \text{if } a+b \geq 6 \end{cases}$$

Show that zero is the identity for this operation and each element 'a' of the set is invertible with 6 – a, being the inverse of 'a'.

**3.** Let A = R – {3}and B = R - $\left\{\frac{2}{3}\right\}$. If f: A → B: $f(x) = \frac{2x-4}{3x-9}$, then prove that f is a bijective function.

**4.** Let A = N × N and * be a binary operation on A defined by (a, b) *(c, d) = (a + c, b + d). Show that* is commutative and associative. Also, find the identity element for * on A, if any.

**[Ans. There is no identity element]**

**5.** Let A = R – [3] and B = R – [1]. Consider the function f: A → B defined by $f(x) = \left(\frac{x-2}{x-3}\right)$, show that is one-one and onto and hence find $f^{-1}$. **[Ans.** $\frac{3y-2}{y-1}$**]**

**6.** Show that the relation R on the set A = {x ∈ Z: 0 ≤ x ≤ 12}, given by R = {(a, b) : |a – b| is a multiple of 4} is an equivalence relation.

**7.** Let S be the set of all the students in a Vidyalaya with R as relation in S given by

R = {$S_1$, $S_2$): $S_1$ and $S_2$ are like minded students}

Show that R is an equivalence relation.

**8.** Let A = {1, 2, 3, ….., 9} and R be the relation in A × A defined by (a, b) R (c, d), if a + d = b + c for (a, b), (c, d) in A ×A. Prove that R is an equivalence relation. Also obtain the equivalence class [2, 5].

**9.** Let f: N → N be defined by $f(n) = \begin{cases} \frac{n+1}{2}, \text{if } n \text{ is odd} \\ \frac{n}{2}, \text{If } n \text{ is even} \end{cases}$ for all n ∈ N. Find whether the function f is bijective.

**10.** Let Z be the set of all integers and R be relation on Z defined as R = {(a, b): a, b ∈ Z and (a – b) is divisible by 5}. Prove that R is an equivalence relation.

**11.** Let f: R → R be the signum function, defined as

$$f(x) = \begin{cases} 1 & x > 0 \\ 0 & x = 0 \\ -1 & x < 0 \end{cases}$$

and g: R → R be the greatest integer function given by g(x) = [x[, where [x[ is the greatest integer less than or equal to x. Does *fog* and *gof* coincide in [0, 1]?

**12.** Consider the binary operations *: R × R → R and o: R × R → R defined as a * b = [a – b] and aob = a for all a, b ∈ R. Show that '*' is commutative but not associative, 'o' is associative but not commutative.

**13.** Show that the f in $A = |R - \left\{\frac{2}{3}\right\}$, defined as $f(x) = \frac{4x+3}{6x-4}$ is one-one onto. Hence, find $f^{-1}$.

**14.** Prove that the relation R in the set A = {5, 6, 7, 8, 9} given by R = {(a, b) ☺a – b| is divisible by 2}, is an equivalence relation. Find all elements related to the element 6. **[Ans. Element Related to 6 are 6, 8]**

**15.** Show that the relation R in the set A = {1, 32, 3, 4, 5} given by R = {(a, b) : |a – b| is even), is an equivalence relation. Show that all the elements of {1, 3, 5} are related to each other and all the elements of (2, 4) are related to each other. But no element of {1, 3, 5} is related to any element of {2, 4}.

**NOTE -Make a Formula Chart Chapter 1 to 5**

MODERN PUBLIC SCHOOL

Sector-37 Faridabad

Holiday Homework

XII Economics

Session- 2025-26

General instructions:-

# Do the H.W in your Macro economics notebook

# Hand writing should be neat and clean

1. Search Engine (Latest record)

a India's GDP

b national income

c population of India

d male and female population of India

e total literacy rate in India

f male and female literacy rate in India

g current wage rate in India

h inflation rate

2. Name the following:-

a finance minister of India

b governor of RBI

c Demonetisation in India took place on

d RBI established on

e GST implementation in India on

f Launch of digital rupees or e-rupee

3. After demonetization people deposited the old currency into their bank account. It will decrease the money supply in the economy. Defend our refute explain.

4. Distinguish between primary deposits and secondary deposits.

5. Commercial banks - backbone of an economy. Explain.

6. Currency is issued by the central bank yet we say that commercial banks create money. How is this money creation by commercial banks likely to affect the national income ? Explain.

7. RBI revealed concept note on digital rupees on 7th October 2022. The launch of digital rupees for new milestone for digital payments. RBI said that it is a legal tender issued by a Central Bank in a digital form and equal to paper currency.

* It is an electronic version of physical rupees and represents potentially a more secure and government supported alternative to private digital currencies.

* Bye introducing e rupees, RBI hopes to minimise the dangers associated with digital currencies. It is a legal tender issued by the central bank but in electronic form.

* Digital rupee has number of advantages like efficient, quicker and cheaper money transfer, pastor settlements, less transaction cost and easier carrying and storage.

On the basis of the above text and common understanding answer the following questions:-

(a) Identify and discuss the function of Central Bank indicated in the above text.

(b) State any two advantages of digital rupee.

(c) State the objective of RBI regarding introducing e- rupee.

8. Explain the components of gross domestic capital formation.

9. Make a project file on topics related to Economics.

10. Go through all the chapters done in the class and mark all the queries to be discussed in the class after summer vacation.

Enjoy your holidays!