O. P. Jindal School
Balkuara.

Class XII B.St. Deepawali Home Assignment

① "There is no need of Human Resource Management as so many peoples are available in the market these days." Do you agree? Explain.

② Distinguish between training and Education

03. What are the best circumstances of suitability of Formal organisation

04 Under what circumstances divisional structure of an organisation is considered most feasible?

05 Explain various process of organising.

06 Differentiate Between functional and divisional structure of an organisation

07 Differentiate between formal and informal organisation

08 Explain the procedures of selection of Employee.

09 what are the advantages of training to the individual and to the Organisation.

10 Define staffing process and explain various steps involved in it.

O.P. JINDAL SCHOOL, PATRATU

Mathematics - XII

K.K. SINHA

★ LONG QUESTIONS :→

Q.1) If $A = \begin{bmatrix} 1 & 2 & -3 \\ 3 & 2 & -2 \\ 2 & -1 & 1 \end{bmatrix}$, then find A^{-1} and use it to solve the following system of the equations:-

$$x+2y-3z=6$$
$$3x+2y-2z=3$$
$$2x-y+z=2$$

Q.2) Show that the relation R in the set $A=\{1,2,3,4,5\}$ given by $R=\{(a,b): |a-b| \text{ is even}\}$, 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 $\{2,4\}$.

Q.3) Show that height of the cylinder of greatest volume which can be inscribed in a right circular cone of height h and semi-vertical angle α is one-third that of the cone and greatest volume of cylinder is $\frac{4}{27}\pi h^3 \tan^2\alpha$.

Q.4) Find the intervals in which the function f given by

$$f(x) = \frac{4\sin x - 2x - x\cos x}{2+\cos x}$$

is (i) increasing (ii) decreasing.

Q-5) If $y = e^{a\cos^{-1}x}$, $-1 \le x \le 1$, show that

$$(1-x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} - a^2y = 0.$$

Q-6) Evaluate $\int \frac{3x-1}{\sqrt{x^2+9}}\,dx$

★★ SHORT QUESTIONS :→

Q-7) Evaluate $\int \tan^8 x \cdot \sec^4 x\,dx$

Q8) Let

$$f(x) = \begin{cases} a, & \text{if } x=0 \\ \dfrac{\sqrt{x}}{\sqrt{16+\sqrt{x}}-4}, & \text{if } x>0 \\ \dfrac{1-\cos 4x}{x^2}, & \text{if } x<0 \end{cases}$$

For what value of a, f is continuous at $x=0$?

Q-9) Using the properties of determinants Prove that

$$\begin{vmatrix} b+c & q+r & y+z \\ c+a & r+p & z+x \\ a+b & p+q & x+y \end{vmatrix} = 2 \begin{vmatrix} a & p & x \\ b & q & y \\ c & r & z \end{vmatrix}$$

Q10) Find the value $\tan^{-1}\left[2\cos\left(2\sin^{-1}\frac{1}{2}\right)\right]$

★

Revised

Holiday Homework
Class : 12
English

Short Answer questions :

1. Your school is organising its Annual Sports Day. Draft an invitation to be sent to the parents, in not more than 50 words.

2. The Principal of Sunshine Public School, Ranchi has invited the inspector of police (Traffic) to deliver a lecture on 'Road Safety' in her school. Draft a notice in 50 words, informing the students to assemble in the school auditorium.

3. How is Mukesh's attitude to his situation different from that of his family.

4. Why did Douglas go to lake Wentworth in New Hampshire?

5. What was Gondwana? How did it look six hundred and fifty millions years ago?

6. In the poem 'Keeping quiet' what is the appeal made by the poet?

Long Answer Type questions:

1. You are Mark Harris from Birmingham. You saw a requirement for engineering consultant in the company "Day Job Ltd.". Write a letter in 120-150 words, offering your candidature for the post as mentioned by you.

2. By 2050, India will be amongst the countries which will face acute water shortage. You are highly alarmed and terrified of the future world without water. So write an article on 'Save water: Are we doing enough?' for the local daily, in 120-150 words.

3. "When people are enslaved as long as they hold fast to their language, it is as if they had the key to their prison." Justify the statement.

4. Elucidate the statement. 'Food is more important for survival than an identity.'

Biology — XII

Molecular genetics -

Long type questions -

1. (a) Explain DNA polymorphism as the basis of genetic mapping of human genome.
2. (b) State the role of VNTR in DNA fingerprinting.

2. The codon is triplet, and is read in a contiguous manner without punctuations. Provide the genetic basis for the statement.

3. List the criteria a molecule that can act as genetic material, must fulfil. which are the best criteria fulfilled by DNA, but not by the RNA.

4. How the following ~~fragments~~ formed and involved in DNA packaging in a nucleus of a cell?
(i) Histone ~~octamer~~ octomer, (ii) Nucleosome, (iii) chromatin.

5. Explain the experiment performed by griffith on streptococcus pneumoniae. What did he conclude from the experiment?

EVOLUTION

1. Explain divergent and convergent evolution. Give one example of each.
2. Explain S.L. Millers experiment in origine of life.
3. Explain the interpretation of Charls Darwin when he observed a small black birds on galapagos islands.
4. What is disturbance in Hardy-Weinberg genetic equilibrium.

5. Explain the salient features of Hugo de vries principle of theory of mutation. How is Darwins theory of natural selection different from it? Explain.

HUMAN HEALTH AND DISEASE -

1. Write the life cycle of plasmodium point wise. Draw a well labelled schematic diagram of the same.
2. Describe about the following diseases.
(i) Filariasis, (ii) Typhoid, (iii) Dermatitis.
(iv) Ascariosis.

3. Differentiate between Aquired immunity and Innate immunity. Why mother's milk is important for a baby.

4. Draw the diagram of an antibody molecule, explain it.
5 How vaccination works.
6. Write about Allergy

7. Describe primary lymphoid organ and secondary lymphoid organ.

8. What is acquired immuno deficiency syndrom. Explain it.

19/10/22

O.P. Jindal School.

Holiday Homework

Class-XII Chemistry

1. Short Question:-

a. How can the following conversions be carried out.
(i) Aniline to bromobenzene.
(ii) Chloroethane to butane
(iii) Chlorobenzene to 2-chloroacetophenone

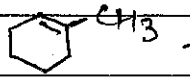
b. (i) Why are alkyl halides insoluble in water?
(ii) Why is Butan-1-ol optically inactive but Butan-2-ol is optically active.

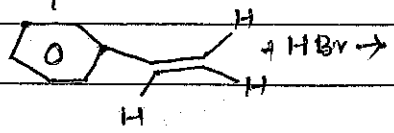
c. Write chemical equ when:
(i) Ethyl chloride is treated with aq. KOH.
(ii) Chlorobenzene is treated with CH_3COCl in presence of anhydrous $AlCl_3$.

d. Account for the following
(i) The C-Cl bond length in chlorobenzene is shorter than that in CH_3-Cl.
(ii) Chloroform is stored in closed dark brown bottles.

e. (i) What is meant by chirality of a compound?
(ii) Which one of the following compound is more easily hydrolysed, $CH_3CHClCH_2CH_3$ or $CH_3CH_2CH_2Cl$?

f. Complete the following reaction equations.

(i)  $+HI \rightarrow$

(ii) 

(iii) $CH_3CH_2CH=CH_2 + HBr \xrightarrow{\text{peroxide}}$

Long Question:-

1.

a. How would you differentiate between S_N1 and S_N2 mechanisms of substitution reactions? Give one example of each.

b. Draw the structure of major monohalo product.

i)  $\xrightarrow{SOCl_2}$

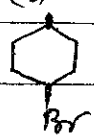
ii)  $CH_3-CH=CH_2 + HBr \xrightarrow{Peroxide}$

2. How will you bring about the following Conversions?

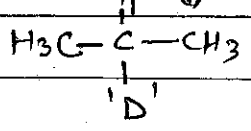
(i) Benzene to 3-bromonitrobenzene.
(ii) Ethanol to but-1-yne
(iii) 1-bromopropane to 2-bromo propane.
(iv) Benzene to 4-bromo-1-nitrobenzene.
(v) Aniline to Chlorobenzene.
(vi) 2-Methyl-1-propene to 2-chloro-2-methylpropane.

3. Explain the following reaction with suitable example.
(i) Finkelstein Reaction (ii) Swarts Reaction.
(iii) Swarts Reaction (iv) Wurtz Reaction
(v) Wurtz-Fitting Reaction (vi) Friedel-Craft's alkylation
(vii) Sandmayer Reaction (viii) Friedel-Craft's acylation

4. (i) Identify A, B, C, D, E, ~~Reactant~~ in the following.



$+ Mg \xrightarrow[ether]{dry} A \xrightarrow{H_2O} B$, $R-Br + Mg \xrightarrow[ether]{Dry} C$

$C \xrightarrow{D_2O}$ 

Holiday Homework.

Class - XII

Sub: Info. Prac.

1. Short answer type questions:

(i) What will be the output of the following code:

```
import pandas as pd
S1 = pd.Series([1,2,2,7,'sachin',77.5])
print(S1.head())
print(S1.head(3))
```

(ii) How is Series data structure different from a dataframe data structure?

(iii) Write a small python code to drop a row from dataframe labeled as 0 (zero).

(IV) Write python code to create a Series object Temp storing temperatures of seven days of week. Its indexes should be 'Sunday', 'Monday'.....'Saturday'.

(V) Write a program to read from a CSV file Employee.csv and create a dataframe from it.

(VI) Write a program to write the following dataframe (sdf) in a csv file namely Sdata.csv, but do not write the Column and row headings/labels.

	2016	2017	2018
Sumeet	52000	78438	38852
Neha	34000	40000	45000

2. Long answer type questions:

(i) Write code statements for a dataframe **df** for the following:.

(a) delete an existing column from it

(b) delete rows from 3 to 6 from it

(c) check if the dataframe has any missing values.

(d) Fill all missing values with 999 in it.

(ii) Consider the following dataframe **saleDf**:

Zone	Target	Sales
zoneA	56000	58000
zoneB	70000	68000
zoneC	75000	78000
zoneD	60000	61000

write a program to add a column namely Orders having values 6000, 6200 and 6000 respectively for the zones A, B, C, D. The program should also add a new row for a new zone **Zone E**. Add some dummy values in this row.

(iii) A list stores three dictionaries each storing details (old price, new price, change). Write a program to create a dataframe from it.

2. Long answer type questions:

(i) Write code statements for a dataframe df for the following:

(a) delete an existing column from it

(b) delete rows from 3 to 6 from it

(c) check if the dataframe has any missing values.

(d) Fill all missing values with 999 in it.

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(iii) A List stores three dictionaries each storing details (old price, new price, change). Write a program to create a dataframe from it.

(iv) Write a program to read from a CSV file Employee.csv and create a dataframe from it but dataframe should not use file's column header rather should use own column headings as EmpID, EmpName, Designation and Salary. Also print the maximum salary given to an employee.

कक्षा - द्वादश (XII) हिंदी

दीर्घ - उत्तरीय प्रश्न

1. 'बेरोजगारी का दंश बेरोजगार ही जानता है।' इस वाक्य को आधार बनाकर बेरोजगारी' पर अपना विचार लिखें।
2. अपने नगर के स्वास्थ्य अधिकारी को एक पत्र लिखिए जिसमें नगर में बिकने वाले खाने-पीने के पदार्थों में मिलावट व सफाई के नहीं होने की शिकायत की गई हो।
3. 'देश में नारियों के प्रति बढ़ती हिंसा' की घटना पर फीचर लिखिए।
4. नदी, कुएँ, स्नानागार और बेजोड़ निकासी व्यवस्था को देखते हुए लेखक पाठकों से प्रश्न पूछता है कि क्या हम सिंधु घाटी सभ्यता को जल-संस्कृति कह सकते हैं? तर्क सहित उत्तर दें।

लघु उत्तरीय प्रश्न

1. सिंधु-सभ्यता साधन-संपन्न थी पर उसमें भव्यता का आडंबर नहीं था। कैसे।
2. स्वयं कविता रच लेने का आत्म-विश्वास लेखक के मन में कैसे पैदा हुआ? 'जूझ' कहानी के आधार पर उत्तर दें।
3. ढोलक की आवाज का पूरे गाँव पर क्या असर होता था? 'पहलवान की ढोलक' पाठ के आधार पर उत्तर दें।
4. लेखक ने ऐसा क्यों कहा है कि अभी चैपलिन पर करीब पचास वर्षों तक काफी कुछ कहा जाएगा?
5. कविता के किन उपमानों को देखकर यह कहा जा सकता है कि उषा कविता गाँव की सुबह का गतिशील शब्द चित्र है?
6. 'उषा' कविता के आधार पर प्रातःकालीन सौंदर्य पर प्रकाश डालिए।

R. P. SINGH

O. P. Jindal School, Patratu (Jharkhand)
Practice Sheet/Assignment.
Class- xii Session- 2022-23.
Subject- Physical Education.
Topic- Test and Measurement.

⇒Short Answer Questions.

Q. no. 1 Explain flamingo balance test.

Q. no. 2 How is Plate tapping test done?

Q. no. 3 Explain Basal Metabolic Rate.

Q. no. 4 Discuss the Procedure of Push-up and Modified Push-up for Boy's and Girls.

Q. no. 5 Discuss Sit and Reach Test for measuring flexibility of children in detail.

Q. no. 6 Explain the advantages and disadvantages of knock-out Tournaments.

⇒Long Answer Questions.

Q. no. 1 Describe the Procedure for administering Rikli and Jones Sr. Citizen fitness Test.

Q. no. 2 Discuss the role of various Committees and their responsibilities to organise any level of Sports events.

☆ For P.H.E Practical Record file.

Act. 1 → Write the Procedure, benefits and Contraindication of Bhujangasana and Vajrasana.

Act. 2 → Write a details of Volley ball or Basket ball. with labelled diagram of Court and Equipment, Rules, Terminologies, skills and Sports Awardees.

HOLIDAY HOME WORK
ECONOMICS

Page No. 1
Date:

Class - XII.

Long Answer Questions :-

Q1: Explain the relevance of intergenerational equality in the definition of sustainable development.

Q2: a) Why are regular salaried employees more in urban areas than in rural areas?
b) Why are less women found in regular salaried employment?

Q3: Explain the steps taken by the govt. in developing rural Markets.

Q4: What are the main problems of human capital formation in India?

Q5: Agriculture sector appears to be adversely affected by the reform process. Why?

Q6: a) Explain how import substitution can protect domestic industry.
b) Why and How was private sector regulated under IPR 1956?

Short Answer Questions:-

Q7: What do you understand by the drain of Indian wealth during the colonial period?

ECO - XII - A

Q8: How is BOP deficit solved?

Q9: Differentiate between

a) Devaluation and Depreciation of currency
b) Revaluation and Appreciation of currency

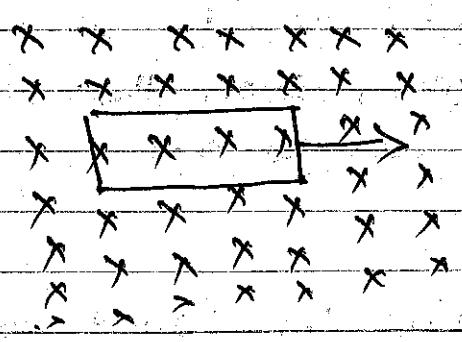
Q10: Distinguish between revenue deficit and fiscal deficit.

Holiday Home Work

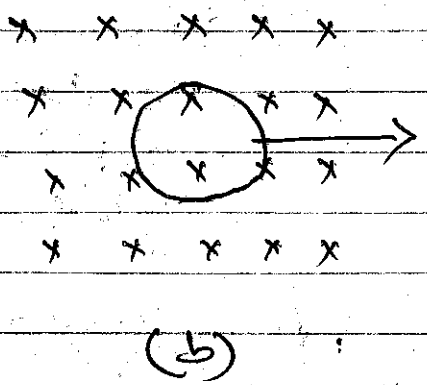
Class XII
Subject : PHYSICS

Short Answer Type Question : ⟶

1. A rectangular loop and circular loop are moving out of a uniform magnetic field region to a field free region with a constant velocity. In which loop do you expect that induced emf to be a constant during the passage out of the field region ?

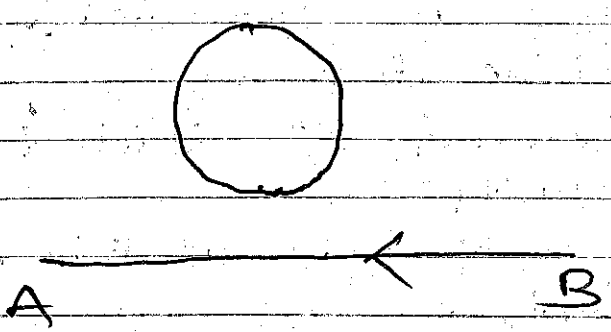


(a)



(b)

2. The electron current flowing in a wire in the direction from B to A is decreasing. Find out the direction of the induced current in the metallic loop kept above the wire as shown :-



3. Explain why current flows through an ideal capacitor when it is connected to an ac source but not when it is connected to a dc source in a steady state.

4. (i) What is wattless current? Explain which current is said to be wattless current.

(ii) When an ac source is connected to an ideal capacitor, show that average power supplied by the source over a complete cycle is zero.

5. A sinusoidal voltage $V = 200 \sin 314t$ is supplied to a resistor of $10\,\Omega$ resistance. Calculate –
(i) rms value of the voltage
(ii) rms value of the current
(iii) Power dissipated as heat in watt.

6 A inductor 200 mH, capacitor 500 μF, resistor resistor $10\,\Omega$ are connected in series with a 100V, variable frequency ac source. Calculate the (i) frequency at which power factor of the circuit is unity.
(ii) current amplitude at this frequency
(iii) Q - factor.

Long Answer Type Questions

XII - Physics

1(a) What is induced emf? Write Faraday's law of electromagnetic induction. Express it mathematically.

(b) A conducting rod of length 'l' with one end pivoted is rotated with a uniform angular speed ω in a vertical plane, normal to a uniform magnetic field 'B'. Deduce an expression for the emf induced in this rod. If resistance of the rod is R, what is the current induced in it.

2(a) What do you mean by self inductance. Derive an expression for self inductance of a long solenoid of length l, cross sectional area A and having no. of turns N.

(b) Define mutual inductance, write its SI unit. Derive an expression for the ~~mutual~~ mutual inductance of two long co-axial solenoids of same length wound ~~over~~ one over the other.

3. Explain the term inductive reactance. Show graphically the variation of inductive reactance with frequency of the applied alternating voltage.

BACKDRA

Accountancy XII

Deepawali Vacation Homework.

01. Pass Journal Entries to record the following noncash transaction after transferring all assets and liabilities have been transferred to Realisation Account.

(a) Dissolution Expenses ₹ 10000 were paid by firm.
(b) Rajan had given a Loan of ₹ 60000 to the firm
(c) for which he accepted ₹ 58000 in full settlement
(d) The firm had a debit balance of ₹ 40000 in the Profit and Loss Account on the date of dissolution.
(e) Profit on Realisation was ₹ 12000.
There were 3 Partners A, B and C.

(02) Iqbal and Kamal are in partnership sharing profits and Losses in the ratio of 3:2. Kamal died three months after the date of Last Balance Sheet. According to the deed, his legal heirs is entitled to the following:—

(a) His capital as per the last Balance Sheet
(b) Interest on above cap @ 3% p.a till the date of death.
(c) His share of profit till the date of death calculated on the Basis of Last year's profits.

His drawings are to the last three years, after charging insurance premium, were ₹ 20000, ₹ 25000 and ₹ 30000 respectively. Kamal's capital as per Balance sheet was ₹ 40000 and his drawings till the date of death were ₹ 5000.
Draw Kamal's Capital A/c.

(03). Shivam, Kapil and Deepak are partners

and his capital account after all adjustment of reserve and profit on revaluation was ₹ 350000 Shivam and Deepak paid him ₹ 490000 in settlement of his death claim. To settle his account, a computer of ₹ 42000 was given to Kapil.
Pass the necessary journal entries in the books of the firm.

(04) Find the New Profit Ratio :-

(i) R and T are partners in a firm sharing profits in the ratio of 3:2 & 5 joins the firm. R surrenders 1/4th of his share and ~~of~~ T 1/5th of his share in ~~favor~~ favour of S.

(ii) Adil and Bhavya are partners sharing profits and losses in the ratio of 7:5. They admit Cris, their Manager, into Partnership who is to get 1/6th share in business. Cris brings ₹ 100000 for his capital and ₹ 36000 for ~~for~~ the 1/6th share of goodwill which he acquires ~~from~~ 1/24th from Adil and ~~of~~ 1/8th from Bhavya.
Profit for the first time year of the new partnership was ₹ 240000. Pass necessary Journal Entries. for Cris's admission and apportion the profit among them.

(05) X, Y and Z who were sharing profits and losses in the ratio of 5:3:2 decided to share future profit in the ratio of 2:3:5. Give Journal entry to distribute "Workmen compensation fund" of ₹ 120000 at the time of changes in the P/C sharing ratio when there is a claim of ₹ 140000 against.

06. From the following information, calculate value of goodwill of the firm by applying capitalisation method :-

Total cap	₹ 1600000
Normal Rate of return	10%
Profit for the year	₹ 200000

07. Krishna and Arjun are partners in a firm. They share profits in the ratio 4:1. They decided to dissolve the firm on 31st March, 2019 at which date their Balance sheet stood as:-

Liabilities	Amount		Assets	Amount	
Bank Loan		1500	Trademarks		1200
Creditors		8000	Machinery		12000
Bills Payable		500	Furniture		400
Capitals A/cs			Stock		6000
Krishna	16000		Debtors	9000	
Arjun	6000	22000	less provision	400	8600
			Cash at Bank		2800
			Advertisement		1000
		32000			32000

The realisation shows the following results :-

(a) Goodwill was sold for ₹ 1000
(b) Debtors were realised at Book value less 10%.
(c) Trademarks realised ₹ 800
(d) Machinery and Stock-in-trade were taken by Krishna for ~~₹ 800~~ ₹ 14400 and 3600. The Expenses on realisation were ~~₹ 800~~ ₹ 800
(e) An unrecorded assets estimated @ ₹ 500 was sold for ₹ 200
(f) Creditors for goods were settled at a discount of ₹ 80. The expenses on realisation were 800

Prepare Realisation Account, Partner's capital A/cs and Bank Account.

~~(a)~~

(08) X, Y and Z were partners in a firm sharing P/L in the ratio of 3:2:1. Z died on 30th June 2022. The Balance sheet of the firm as at that 31st March, 2022 is as follows:-

Liabilities		Amt.	Assets	Amt.
X's cap		240000	Machinery	240000
Y's cap		160000	Furniture	150000
Z's cap		80000	Investments	40000
Current A/c			Stock	64000
~~Z~~	15000		Sundry Debtors	50000
Y	5000	21000	Bills Receivables	22000
Reserve		60000	Cash at Bank	37000
Bills Payable		34000	Cash in hand	22000
Sundry Creditors		40000	Z's current A/c	10000
		635000		635000

The following decisions were taken by the remaining Partners

(a) A provisions for doubtful debts is to be raised @ 5% on debtors

(b) While Machinery to be decreased by 10%. Furniture and Stock are to be appreciated by 5% and 10% respectively

(c) Advertising Expenses ₹ 6000 are to be carried forward to next year and, therefore, it is to be adjusted through the Revaluation A/c.

(d) Goodwill of the firm is valued at ₹ 60000

(e) X and Y are to share future profits in the ratio of 1:1

(f) Profit for the year ended 31st March 2022 was ₹ 3,16,000 and Z's share of profit till the date of death is to be determined on the basis of profit for the year ended 31st March 2022.

(g) The fixed capital method is to be converted into fluctuating capital method by transferring the current A/c balances to the respective partners Capital A/c

instalments plus 10% interest on the unpaid balance. The first instalment was paid on 31st December 2022

(09) N, S and G were partners in a firm sharing P&L in the ratio of 2:3:5. On 31st March, 2022 their Balance sheet was as follows:

Liabilities		Amt	Assets		Amt
Creditors		165000	Cash		120000
General Reserve		90000	Debtors	135000	
Capitals			Less provision	15000	120000
N	225000		Stock		150000
S	375000		Machinery		450000
G	450000	1050000	Patents		90000
			Building		300000
			P/L A/C		75000
		1305000			1305000

G Retired on the above date it was agreed that:

(a) Debtors of ₹ 6000 will be ~~been~~ written off as bad debts and a provision of 5% on debtors for bad and doubtful debts will be maintained.

(b) Patent will be completely written off and Stock and machinery and Building will be depreciated by 5%.

(c) An unrecorded creditors of ₹ 30000 will be taken into Account.

(d) N and S will share the future profits in 2:3 Ratio.

(e) Goodwill of the firm on G's retirement was valued at ₹ 90000.

Pass necessary journal entries.

(10) following is the B/S of Asha and Binay as on 31.03.22

Liabilities		Assets		
Creditors	13000	Bank		15000
Employee's P.F.	8000	Debtors	22000	
		Less: Prov.	1000	21000