



NP – 378

V Semester B.B.A. Examination, February/March 2024
(NEP) (Freshers)
BUSINESS ADMINISTRATION
Paper – 5.4/5.5 : Advanced Corporate Financial Management
(Elective) (FN 1)

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer should be written in **English** only.

SECTION – A

Answer **any six** sub-questions. **Each** sub-question carries **two** marks. (6×2=12)

1. a) What is meant by unsystematic risk ? Give an example.
- b) What is specific cost of capital ?
- c) What do you mean by a dividend policy ?
- d) What is a ageing schedule ?
- e) Differentiate between gross and net working capital.
- f) Write any four salient characteristics of debentures.
- g) What is coefficient of variation ?
- h) What do you mean by bonus issue ?



SECTION – B

Answer **any three** questions. **Each** question carries **four** marks. (3×4=12)

2. Briefly explain the various forms of dividend.
3. Laddu Company Ltd., has two projects X and Y, costing ₹ 5,00,000 each. The expected cash inflows and the certainty coefficient are as under :

Year	Project X		Project Y	
	Cash inflow coefficient		Cash inflow coefficient	
1	3,00,000	0.8	2,00,000	0.9
2	4,00,000	0.7	3,00,000	0.8
3	4,50,000	0.9	3,00,000	0.7

Risk free cut-off rate is 10%. Suggest which of the two projects should be preferred ?

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4. A Company issues 10,000, 15% preference shares of ₹ 100/- each, cost of issue is ₹ 5 per share. Calculate the cost of preference capital, if the shares are issued
- at par
 - at a premium of 20%
 - at a discount of 5%.
5. Describe what is Weighted Average Cost of Capital (WACC).
6. Explain the different techniques of measuring risks.

SECTION – C

Answer **any three** questions. **Each** question carries **twelve** marks. **(3×12=36)**

7. ZMSR Company Limited is considering the purchase of a new investment. Two alternative investments are available A and B, both costing ₹ 1,00,000. Cash flows are expected to be as follows :

Years	Cash flow of Project – A (₹)	Cash flow of Project – B (₹)
1	40,000	50,000
2	35,000	40,000
3	25,000	30,000
4	20,000	30,000

The Company has a target return on capital of 10%. Risk premium rate is 2% and 8% respectively for investment A and B. Which Project should be preferred for investment ?

8. a) A Company expects a net income of ₹ 80,000. It has ₹ 2,00,000, 8% debentures. The capitalisation rate of the Company is 10%. Calculate the value of the firm and overall capitalisation rate according to the Net Income Approach. Ignore income tax.
- b) If the debenture debt is increased to ₹ 3,00,000. What shall be the value of the firm and the overall capitalisation rate ?





9. Coal Company has on its books the following amounts and specific costs of each type of capital :

Type of Capital	Book Value (₹)	Market Value (₹)	Specific Costs (%)
Debt	4,00,000	3,80,000	05
Preference	1,00,000	1,10,000	08
Equity	6,00,000	9,00,000	15
Retained Earnings	2,00,000	3,00,000	13
	13,00,000	16,90,000	

Determine the WACC using

- i) Book value weights and
- ii) Market value weights

How are they differing ? Can you think of a situation where the WACC would be the same using either of the weights ?

10. Z Pharma Company belongs to a risk class of which the approximate P/E Ratio is 12% currently has 40,000 Equity shares at ₹ 100 each. The firm is contemplating to declare the dividend of ₹ 10 per share at the end of financial year which has just started. Given the assumptions of Modigliani and Miller, answer the following questions :

- i) What will be the price of the share at the end of the year ?
 - a) If dividend is not declared.
 - b) If dividend is declared.
- ii) Assuming that the company pays the dividend has a net income (Y) of ₹ 5,00,000 and makes new investment of ₹ 10,00,000 during the period. How many new shares must be issued ?

11. Discuss reasons for Corporate Restructuring.





NP – 376

V Semester B.B.A. Examination, February/March 2024

(NEP Scheme) (Freshers)

BUSINESS ADMINISTRATION

5.4/5.5 : Compensation and Performance Management (HRM) (Elective)

Time : 2½ Hours

Max. Marks : 60

Instruction : Answers to be written in **English** only.

SECTION – A

Answer **any six** sub-questions. **Each** sub-question carries **two** marks. **(6×2=12)**

1. a) What is ESOP ?
- b) What are incentives ?
- c) Define job evaluation.
- d) What is Basic Wage ?
- e) How is intrinsic reward different from extrinsic reward ?
- f) What is forced distribution method in performance appraisal ?
- g) What is time rate wage ?
- h) Mention the components of salary.

SECTION – B

Answer **any three** questions. **Each** question carries **four** marks. **(3×4=12)**

2. Write a short note on 3P's of compensation.
3. Write brief note on position evaluation statement.
4. Elaborate difference between salary and wages.
5. What is Behaviour Anchor Rating Scale (BARS) ? Explain with suitable example.
6. Explain MBO approach of performance appraisal.



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SECTION - C

Answer any three questions.

(3x12=36)

7. Write a note on compensation management in multinational organisation.
 8. Briefly explain the factors evaluation system method.
 9. Discuss process of wage payment.
 10. Elaborate 360 degree appraisal method.
 11. What are the factors effecting in deciding compensation strategy of the organisation ?
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SECTION - B

(3x4=12)

2. Write a short note on 360° of compensation.
3. Write brief note on position evaluation statement.
4. Elaborate difference between salary and wages.
5. What is Behaviour Anchor Rating Scale (BARS)? Explain with suitable example.
6. Explain MBO approach of performance appraisal.

V Semester B.B.A. Examination, February/March 2024
(NEP) (Freshers)

BUSINESS ADMINISTRATION

5.2 : Income Tax – I

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer should be written in **English** only.

SECTION – A

Answer **any six** sub-questions. **Each** sub-question carries **2** marks. **(6×2=12)**

1. a) Mention the types of taxes with examples.
- b) Mention any four canons of taxation.
- c) What do you mean by previous year ?
- d) What do you mean by agricultural income ?
- e) Define salary.
- f) Mention any four contributions u/s 80 C.
- g) Mention the deductions u/s 24 in income from house property.
- h) Expand ITR and mention its types.

SECTION – B

Answer **any three** questions. **Each** question carries **four** marks. **(3×4=12)**

2. State whether the following are agricultural or non-agricultural income.
 - a) Income from interest on arrears of rent payable in respect of land used for agricultural purposes.
 - b) Income from agricultural land situated in Australia.
 - c) Income from lease of land for grazing of cattle required for agricultural pursuits.
 - d) Income from poultry farming.
3. Mr. Rama went to England for studies on 5th Aug. 2022, and came back to India on 25-02-2023. He had never been out of India before. What is his residential status for the Assessment Year 2023-24 ?
4. Mr. Vishnu (resident), an employee of SRM Ltd., retires from service on 16th January 2023 after serving for 36 years and 7 months. He received ₹ 9,70,000 as gratuity under the Gratuity Act 1972. At the time of retirement, his basic salary was ₹ 23,000 P.M. and D.A. was ₹ 4,000 P.M. Calculate the taxable amount of gratuity.



P.T.O.



5. Compute the amount of Net Annual Value from the following information.
- | | |
|--|--------------|
| a) Municipal rental value | ₹ 50,000 |
| b) Fair rental value | ₹ 90,000 |
| c) Let out | ₹ 8,000 P.M. |
| d) Standard rental value | ₹ 60,000 |
| e) Municipal tax paid in the previous year | |
| * 2021-22 | ₹ 10,000 |
| * 2022-23 | ₹ 10,000 |
6. Mr. Srinivas submitted his particulars of income and payments for the previous year 2022-23. Compute his taxable income and tax liability for the assessment year 2023-24 in old regime.
- Income from salary (computed) ₹ 5,74,400.
 - Income from house property (computed) ₹ 18,300.
 - Loss from SOP (Self Occupied Property) ₹ 3,400.
 - Income from other source ₹ 52,970 (computed).
 - Savings u/s 80 C ₹ 1,12,000.
 - Medical insurance premium u/s 80 D ₹ 16,000.
 - Interest on loan taken for higher education u/s 80 E.
 - Tax deducted at source from salary ₹ 20,000.

SECTION – C

Answer **any 3** questions. **Each** question carries **twelve** marks.

(3×12=36)

7. From the following particulars of Mr. Manjunath, compute his gross total income for the assessment year 2023-24, if he is
- Ordinary resident
 - Not ordinary resident
 - Non Resident.
- Received ₹ 20,000 in India which accrued in England.
 - ₹ 10,000 earned in India, but received in England.
 - ₹ 50,000 were earned and received in Africa but brought to India.
 - ₹ 10,000 were earned and received in Japan from a business which was controlled and managed in Japan.
 - ₹ 16,000 were untaxed foreign income of some earlier years, which was brought to India in the previous year.
 - Interest on SBI deposit received in Bhutan ₹ 7,000.
 - Interest on post office savings bank A/c ₹ 2,000.





- h) Income from agriculture in Nepal ₹ 10,000.
- i) Dividend received from a foreign company outside India ₹ 60,000.
- j) Income from business in Tokyo ₹ 1,00,000 (25% received in India).
- k) Gift received from brother ₹ 25,000.
- l) Salary from an Indian company received in New York ₹ 75,000.

8. Mrs. Sushmitha is the Manager of a private company in Bangalore. She has furnished the following details of her income for the year ended 31-03-2023.

- a) Basic salary ₹ 21,000 P.M.
- b) Bonus equal to 2 months basic salary.
- c) Commission is 3% of sales. During the year she reached a sales target of ₹ 5,00,000.
- d) Dearness allowance forming part of salary ₹ 7,000 P.M. (entered into retirement benefits).
- e) Medical allowance ₹ 1,400 P.M.
- f) Entertainment allowance ₹ 3,000 P.M.
- g) Children hostel allowance for her 2 children at ₹ 500 P.M. per child.
- h) Own and employer contribution towards RPF at 14%.
- i) Interest on RPF at 11% p.a. ₹ 44,000.
- j) She has been provided rent free accommodation at Bangalore whose FRV is ₹ 10,000 and cost of furniture is ₹ 60,000.
- k) She paid professional tax ₹ 2,400.

Compute taxable income from salary for the assessment year 2023-24.

9. Mr. Santosh is working as manager in Mumbai. He received the following incomes for the P.Y. 2022-23.

- a) Basic salary ₹ 15,000 P.M.
- b) D.A. ₹ 5,000 P.M. (given under the terms of employment)
- c) Entertainment allowances ₹ 1,000 P.M.
- d) Medical allowance ₹ 500 P.M. (Actual medical expenses incurred ₹ 7,500).
- e) HRA ₹ 4,000 P.M. (Rent paid for the house ₹ 5,000 P.M.)
- f) Company provided small car with driver and the expenses are met by the company.
- g) He and his employer contributes 14% of salary towards R.P.F.
- h) Interest on R.P.F. is ₹ 7,500 at 12.5% p.a.
- i) Free gas, water and electricity provided by the company ₹ 15,000.
- j) Services of domestic servants paid by the company as Watchman ₹ 1,500 P.M., Gardener ₹ 1,500 P.M., Sweeper ₹ 1,500 P.M., Cook ₹ 1,800 P.M.
- k) Children education allowance ₹ 4,000 per child P.M. for 2 children.
- l) Membership fees of Mr. Santosh was paid by the company ₹ 1,000.

Compute the taxable income from salary of Mr. Santosh for the A.Y. 2023-24.





10. Mr. Shankar is the owner of 3 house properties in Bengaluru and has let out all the houses throughout the year

Particulars	H.A	H.B	H.C
	₹	₹	₹
Fair rental value	1,80,000	1,50,000	1,20,000
Municipal rental value	1,50,000	2,00,000	1,00,000
Letout per month	20,000	15,000	25,000
Use by tenant	Residential	Office	Residential
Repair charges	10,000	–	40,000
Collection charges	20,000	5,000	–
Interest on loan :			
a) For construction	1,00,000	–	–
b) For daughter's marriage	–	60,000	–
c) For repairs	–	–	10,000

Municipal tax is 10% of municipal value. Municipal tax of House 'A' was paid by owner but municipal tax of House 'B' was not paid upto 31-03-2022 and municipal tax of House 'C' was paid by tenant. House 'C' remained vacant for 2 months during the previous year. Unrealized rent of House 'A' was ₹ 20,000. Unrealized rent recovered for House 'C' which was allowed during earlier years ₹ 25,000.

Compute income from house property for the AY : 2023-24.

11. From the following information compute taxable income and tax liability of Mrs. Muskan using old regime of tax slabrate.

- 1) Basic salary ₹ 37,500 P.M.
- 2) D.A. ₹ 20,000 P.M.
- 3) Professional tax paid by Mrs. Muskan ₹ 2,500.
- 4) Gross annual value house property ₹ 1,80,000.
- 5) Municipal tax paid by Mrs. Muskan ₹ 18,000.
- 6) Interest on loan taken for construction of house property ₹ 14,625.
- 7) Income from profession (Computed) ₹ 50,000.
- 8) LIC premium paid ₹ 25,000.
- 9) Medical insurance premium paid through cheque ₹ 15,000.





NP – 445

V Semester B.B.A. (Aviation Management) Examination, February/March 2024
(NEP) (Freshers)

BUSINESS ADMINISTRATION

5.2 : Income Tax Law and Practice

Time : 2½ Hours

Max. Marks : 60

Instruction : Answers should be written in **English** only.

SECTION – A

1. Answer **any 6** sub-questions. **Each** sub-question carries **2** marks. (6×2=12)
- State any 2 cannons of taxation.
 - Mention any four incomes which are fully exempt from tax.
 - Write the additional conditions of Residential Status.
 - What is Provident Fund ?
 - Give the meaning of “Annual value” of the property.
 - What do you mean by profession ?
 - Define cost of acquisition.
 - Mention the provisions under Section 80E.

SECTION – B

Answer **any 3** questions. **Each** question carries **4** marks. (3×4=12)

2. Mr. Vinith is a citizen of America comes to India on 20-3-2022 for the first time and on 1-9-2022 he left India and went to Nepal on a business trip. Again he come back to India on 26-2-2023. Determine his residential status for the Assessment Year 2023-24.



P.T.O.



3. Mr. Suresh is employed in Mumbai on a basic salary of Rs. 10,000 per month and other allowances amounting to Rs. 3,000 per month. He is also getting HRA from the employer at Rs. 3,600 per month. He is living in a rented house by paying rent of Rs. 4,000 p.m. Find out the amount of HRA to be included in his salary income for the previous year ended 31-3-2023.
4. Determine the Net Annual Value of house property for the A.Y. 2023 – 24.

Particulars

Municipal value	Rs. 1,50,000
Fair rent	Rs. 1,70,000
Standard rent	Rs. 1,30,000
Actual rent per month	Rs. 15,000 per month
Unrealized rent	Rs. 18,000
Vacancy period	1 month
Municipal tax paid	Rs. 15,000

5. Distinguish between short term capital gain and long term capital gain.
6. Mr. Manu gives you the following information of his taxable income under various heads for the P.Y. 2022-2023. Compute his total taxable income for the A.Y. 2023-24.
- Income from salary Rs. 4,10,000 (computed).
 - Income from house property Rs. 1,08,000 (computed)
 - Income from business Rs. 2,00,000.
 - Short term capital gains Rs. 60,000.





- e) Income from other sources Rs. 50,000.
- f) Life insurance premium, paid Rs. 25,000.
- g) Donation to PM National Relief Fund Rs. 15,000.

SECTION – C

Answer **any 3** questions. **Each** question carries **12** marks. **(3×12=36)**

7. Mr. X provides following details of income, calculate the income which is liable to be taxed in India for the A.Y. 2023 – 24, assuming that
- a) He is an ordinarily resident
 - b) He is not an ordinarily resident
 - c) He is a non-resident.

Particulars	Amount (Rs.)
a) Salary received in India from a former employer of UK	1,40,000
b) Income from tea business in Nepal being controlled from India	10,000
c) Interest on company deposit in Canada (1/3 rd received in India)	30,000
d) Profit from a business in Mumbai controlled from UK	1,00,000
e) Profit for the year 2022-23 from a business in Tokyo remitted to India	2,00,000
f) Income from a property in India but received in USA	45,000
g) Income from a property in London but received in Delhi	1,50,000
h) Agricultural income from USA entire amount spent for soft development in New York	3,00,000
i) Dividend from Suzuki Inc. Japan entire amount received in Japan	92,000





j) Past untaxed foreign income brought to India during previous year	2,00,000
k) Interest on Post Office savings bank account	10,000
l) Gift in foreign currency	30,000

8. Smt. Kaur an employee of Hindustan Lever Ltd. Delhi received the following incomes during the year ending 31-3-2023.

- a) Basic salary upto 31-8-2022 Rs. 12,000 p.m. and there afterwards Rs. 12,500 p.m.
- b) Dearness pay Rs. 30,000 p.a.
- c) Dearness allowance Rs. 15,000 p.m. (it does not enter into retirement benefits).
- d) Children education allowance Rs. 250 p.m. for one child.
- e) Reimbursement of medical expenses Rs. 6,500 (treatment was taken in private hospital).
- f) Smt. Kaur has been provided with rent free flat at Delhi (rent paid by the company Rs. 80,000 p.a.)
- g) Facility of watchman and cook provided, each of whom is paid Rs. 700 p.m. as salary.
- h) Interest free loan for purchasing home appliances Rs. 1,20,000 (date of loan borrowed 1-4-2022 and assume SBI lending rate for similar loan on 1-4-2022 @ 12% p.a.)
- i) She and company contributing 14% of salary towards RPF and interest on RPF was Rs. 15,000 at 15% p.a.
- j) She had been provided with 1600 cc motor car without driver for both for official and personal use, all the running and maintenance expenses are met by employer.

Determine salary income of Smt. Kaur for the assessment year 2021-22, assuming that she paid Rs. 200 p.m. as profession tax. (ignore alternative tax regime under Section 115 BAC).





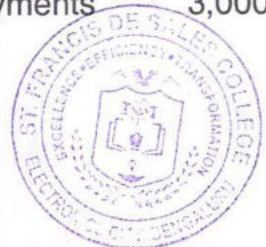
9. From the following particulars of house properties of Vishnu (Resident), compute his income from house property for the A.Y. 2023-2024, (ignore alternative tax Sec. 115 BAC).

Particulars	1 House	2 House	3 House	4 House
Municipal value	8,000	9,000	20,000	24,000
Annual rent	SOP	SOP	32,000	30,000
Local taxes paid	1,600	1,800	4,000	4,800
Repair charges	1,000	–	3,000	–
Insurance premium	50	150	200	500
Interest on loan for construction	1,180	–	1,800	4,200
Unrealized rent (2021-22)	–	–	3,000	–
Vacancy period	–	–	3 months	–

The 1 house and 2 houses are self occupied. The 3 house is let out for residence and the 4th house is let out for business. In case of 4th house the tenant paid local taxes. House 1 occupied for his residence and house 2 occupied by his parents.

10. Following is the Profit and Loss A/c of Mr. Shiva for the year ending 31-3-2023.

Particulars	Amount	Particulars	Amount
To Office expenses	4,500	By Gross profit	1,50,000
To Fire Insurance Premium	5,600	By Bad debts recovered	
To Bad debts	800	but allowed earlier	5,000
To Salary to staff	78,000	By Interest from securities	6,000
To Audit fee (in cash)	22,250	By Rent received from	
To Proprietor's Bonus	13,000	employees	12,000
To Interest on capital	3,000	By Interest from debtors	
To Income tax	1,900	for delayed payments	3,000





To Depreciation	2,500	By Amount received from	
To Sales tax (due)	3,000	LIC on maturity of policy	3,000
To Advance income tax paid	1,200		
To Charities	900		
To Motor car expenses	750		
To Municipal taxes of quarters let out to employees	6,000		
To Net profit	35,600		
	1,79,000		1,79,000

Additional Information :

- 1) Office expenses includes Rs. 3,000 paid as compensation to an old employee whose services were terminated in the interest of the business and Rs. 1,200 by way of help to a poor student.
- 2) WDV of plant and machinery Rs. 10,000. A new machinery costing Rs. 20,000 was purchased on 16-12-2022 and put to use on 16-1-2023.
- 3) 60% of motor car expenses are for proprietor personal use.

Compute Business Income for the A.Y. 2023-24.

11. A) State, whether the following income are agriculture or non-agriculture incomes.
- a) Income from sale of forest trees of spontaneous growth.
 - b) Income from agricultural land situated in urban area.
 - c) Income derived from lease of land for grazing of cattle required for agricultural operations.
 - d) Income from the sale of earth for brick making.
 - e) Income from dairy farming.
 - f) Income from dairy products.





- B) From the following particulars of Mr. Kumar compute his total income for the Assessment Year 2023-24 is Rs. 12,00,000. During the year, he made the following payments and contributions.
- a) Paid Rs. 40,000 as LIC on his life.
 - b) Paid Rs. 20,000 as LIC on his fathers life.
 - c) He contributed Rs. 800 p.m. to RPF and Rs. 800 to URPF.
 - d) Paid Rs. 20,000 as medical insurance premium.
 - e) Donated Rs. 30,000 to PMNRF and donations of Rs. 50,000 in kind for charitable institution.
 - f) Interest on education loan Rs. 10,000.
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NP – 446

V Semester B.B.A. Examination, February/March 2024

(NEP) (Freshers)

AVIATION MANAGEMENT

5.3 : Airport Strategic Planning

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer **all** questions in **English**.

SECTION – A

1. Answer **any 6** out of 8 given questions, **each** carries **2** marks. **(6×2=12)**
- What is Hanger ?
 - State any four components of airport.
 - State the meaning of Apron Layout.
 - What do you mean by Airport Beacon ?
 - Give the meaning of route fragmentation.
 - List out the primary control surfaces of an airport.
 - Mention any four points that comes under technical approvals to plan an airport.
 - What is STD and ETD in airport ?

SECTION – B

Answer **any 3** out of 5 questions. **Each** question carries **4** marks.

(3×4=12)

- How do airports benefit national economy ?
- Explain any four types of Apron.
- State the concept of gate capacity related to delay.
- Describe the navigational aids used in Airfield.
- State the advantages of satellite concept of airport terminal.



P.T.O.



SECTION – C

Answer **any 3** out of 5 questions. **Each** question carries **12** marks. **(3×12=36)**

7. Explain Airport system planning process in detail.
8. What are the operational concept in planning and designing area requirement of terminal ?
9. Classify the Airport airfield components.
10. Narrate the environmental concerns of Aviation industry that have global impact.
11. What is Runway intersection ? Explain the numbering and visual docking system.





NP – 447

V Semester B.B.A. Examination, February/March 2024

(NEP) (Freshers)

AVIATION MANAGEMENT

5.4 : Airline Customer Relationship Management (Elective)

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer *all* questions in **English**.

SECTION – A

Answer **any 6** out of 8 given questions. **Each** carries **2** marks : **(6×2=12)**

1. a) Define customer service.
- b) What is low cost carrier ?
- c) Who are front line staff ?
- d) What do you mean by communication ?
- e) What are internet channels ?
- f) What do you mean by cultural difference in Airlines ?
- g) Mention different types of stress.
- h) Who are cabin crew ?

SECTION – B

Answer **any 3** out of 5 given questions. **Each** question carries **4** marks : **(3×4=12)**

2. Explain airline industry challenges.
3. Write a note on :
 - a) Always connected customers.
 - b) Mobile commerce.
4. Explain hints for developing telephone listening skills.
5. Explain how airlines are using social media.
6. Explain in brief common sources of stress.



P.T.O.



SECTION – C

Answer **any 3** out of 5 given questions. **Each** question carries **12** marks : **(3×12=36)**

7. Discuss about customer contact techniques for making good first impression about airlines.
8. Discuss in brief Legitimate Vs. Illegitimate complaints.
9. Write note on :
 - a) Front line staff.
 - b) In flight customer service.
 - c) Cross culture awareness.
10. Discuss in brief irregular operations of an airline with example.
11. What is stress ? Discuss consequences of stress on physical health.



V Semester B.B.A. (Aviation Management) Examination, February/March 2024
(NEP) (Freshers)
BUSINESS ADMINISTRATION
5.5 : Air Cargo Management

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer **all** questions in **English**.

SECTION – AAnswer **any 6** out of 8 given questions. **Each** carries **2** marks.**(6×2=12)**

1. a) Define MRP.
- b) What is alternative warehousing ?
- c) Expand JIT.
- d) What is commercial invoice ?
- e) Explain shippers letter of instructions.
- f) Expand TQM.
- g) Write any 2 examples of special cargo.
- h) What is holding cost ?

SECTION – BAnswer **any 3** out of 5 questions. **Each** question carries **4** marks.**(3×4=12)**

2. Write a note on introduction to air logistics.
3. Explain in detail about inventory management.
4. Give a note on bonded warehouse and alternative warehousing.
5. Explain classifications of Air Cargo.
6. Write a note on IATA certification of personal handling dangerous goods.



P.T.O.



SECTION – C

Answer **any 3** out of 5 questions. **Each** carries **12** marks.

(3x12=36)

7. Explain in detail, types and roles of warehouses.
8. Write a note on international documentation in Air Cargo transport.
9. Differentiate general cargo and special cargo.
10. Elucidate functions and purpose of Airway Bill (AWB).
11. Explain in detail, DGR and its 9 classes.



V Semester B.B.A. Examination, February/March 2024

(NEP) (Freshers)

AVIATION MANAGEMENT

Paper – 5.1 : Operation Research

Time : 2½ Hours

Max. Marks : 60

Instruction : Answers should be written in **English** only.

SECTION – A

Answer **any six** sub-questions. **Each** sub-question carries **2** marks : **(6×2=12)**

1. a) Define operation research.
- b) What do you mean by basic feasible solution ?
- c) What is meant by 2 person game ?
- d) What is meant by float ?
- e) Expand CPM and PERT.
- f) What do you mean by replacement theory ?
- g) State any two features of operation research.
- h) What are the different methods of solving transportation problem ?

SECTION – B

Answer **any three** questions. **Each** question carries **4** marks : **(3×4=12)**

2. A company produces two types of leather belts, type-A and type-B. Profits on two types of belts are Rs. 40 and Rs. 30 respectively per belt. Each belt of type-A requires twice as much time required for a belt of type-B and the company could produce 1000 belts per day. But the supply of leather is sufficient only for 800 belts per day. Belt of type – 'A' requires a fancy buckle and only 400 fancy buckles are available for this, per day. For belt of type-B, only 700 buckles are available per day.

Formulate the problem as LPP.



P.T.O.



3. Given below is the transportation cost per unit for transporting goods from origin to destinations. Find out the initial basic feasible solution and transportation cost using NWCR method.

		DESTINATIONS			SUPPLY
		D1	D2	D3	
ORIGIN	O1	8	4	12	500
	O2	10	5	6	200
	O3	7	5	3	100
DEMAND		400	200	200	

4. A machine cost Rs. 9,000, its annual maintenance cost is Rs. 200 for the 1st year and thereafter it increases by Rs. 2,000 every year for the next 4 years. Determine the best age at which the machine to be replaced. Do not consider the scrap value.
5. Determine the value of the game from the following payoff matrix.

		Player B	
		1	2
Player A	1	5	1
	2	3	4

6. Draw a network diagram for the following project.

Jobs	A	B	C	D	E	F	G	H	I
Predecessors	-	-	-	A	B	C	D, E	B	H, F

SECTION – C

Answer any three questions. Each question carries 12 marks : (3×12=36)

7. Solve the following LPP by graphical method.

$$\begin{aligned} \text{Max } Z &= 3x + 10y \\ \text{s. t } x + y &\leq 4 \\ 2x + y &\leq 6 \\ \text{and } x, y &\geq 0. \end{aligned}$$





8. Determine the optimal solution and total processing cost for the following assignment problem.

		OPERATORS			
		A	B	C	D
JOBS	1	10	20	18	14
	2	15	25	9	25
	3	30	19	17	12
	4	19	24	20	10

9. Consider the payoff matrix of player A as shown below. Solve the game optimally using graphical method.

		Player B				
		1	2	3	4	5
Player A	1	-4	2	5	-6	6
	2	3	-9	7	4	8

10. Draw the network and determine the critical path for the given data. Also calculate all the floats involved in CPM.

Activity	1-2	1-3	2-4	3-4	3-5	4-9	5-6	5-7	6-8	7-8	8-10	9-10
Duration	4	1	1	1	6	5	4	8	1	2	5	7





11. The following table shows the jobs of PERT network with their time estimates in days.

Job i-j	Duration		
	Optimistic	Most likely	Pessimistic
1-2	3	6	15
1-6	2	5	14
2-3	6	12	30
2-4	2	5	8
3-5	5	11	17
4-5	3	6	15
6-7	3	9	27
5-8	1	4	7
7-8	4	19	28

- Draw the project network.
- Calculate the length and variance of the critical path.
- What is the approximate probability that the jobs on the critical path will be completed in 41 days ?



Activity	1-2	1-6	2-3	2-4	3-5	4-5	6-7	5-8	7-8
Duration	3	2	6	2	5	3	3	1	4