Name: **Enrolment No:**	UPES UNIVERSITY OF TOMORROW

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2023

Course: MBA OG **Semester: III**
Programme: Financing Petroleum Sector Projects **Course Code: FINC 8015**
Time: 03 hrs. **Max. Marks: 100**
Instructions: Scientific Calculator is allowed

SECTION A
10Qx2M=20Marks

S. No.	**Multiple Choice Questions**	**Marks**	**CO**
Q 1	Option which may be exercised even before maturity is known as a. American Option b. Cylinder Option c. European Option d. Preference Option	**2**	**1**
Q 2	An analysis involving study of the impact of deviations in the key variable on the viability of a project is called: e. Break even point analysis f. Simulation technique g. Scenario analysis h. Sensitivity analysis	**2**	**1**
	Differentiate the Following:		
Q 3	Call and Put Option	**2**	**1**
Q4	Transaction Risk and Translation Risk	**2**	**1**
	Fill in the Blanks		
Q 5	Sensitivity is defined as …………………………………………………..	**2**	**1**
Q 6	CO Variance is refer to …………………………………………	**2**	**1**
Q 7	Business risk refers to …………………………………………………..	**2**	**1**
Q 8	Maintenance Margin is defined as ……………………………………	**2**	**1**
Q 9	An iterative process to identify, assess, reduce, accept, and control risks in a systematic, proactive, comprehensive and cost effective manner, taking into account the business, costs, technical, quality and schedule programmatic constraints is called as……………………………………………………	**2**	**1**

<table>
<tr><td>Q 10</td><td>Decisions on what to do, how much do, when to do, and what not to do is called as…………………………………….</td><td>2</td><td>1</td></tr>
<tr><td colspan="4">SECTION B
4Qx5M= 20 Marks</td></tr>
<tr><td>Q 11</td><td>Growing level of uncertainty and Risk, causing all firms facing wavering and non deterministic future. All groups and corporations resort to effective risk management, either formal or informal, depending on the size of the organization. Effective Risk Management is getting attention in the corporate world. It requires very specialized organization approach and skills to implement and handle the risk management process. Without Risk Management it would be very difficult to survive in the competitive world. The firms are resorting to number of practices to manage the risk.

Based on this, discuss the various approaches involved in the risk management function.</td><td>5</td><td>2</td></tr>
<tr><td>Q 12</td><td>As a Finance manager of the company you have submitted a proposal for manufacturing a new product called Drill 2 to the Managing Director. The project would cost Rs.70 million with certainty and the cash inflows (Rs. Million) for the years 1 through 3 would have the following distributions:
<table>
<tr><td>Year1</td><td></td><td>Year 2</td><td></td><td>Year 3</td><td></td><td>Year 4</td><td></td></tr>
<tr><td>Cash flow</td><td>Probability</td><td>Cash flow</td><td>Probability</td><td>Cash flow</td><td>Probability</td><td>Cash flow</td><td>Probability</td></tr>
<tr><td>30</td><td>.2</td><td>40</td><td>.1</td><td>50</td><td>0.3</td><td>40</td><td>0.4</td></tr>
<tr><td>40</td><td>.4</td><td>50</td><td>.7</td><td>60</td><td>0.4</td><td>50</td><td>0.4</td></tr>
<tr><td>60</td><td>.4</td><td>60</td><td>.2</td><td>80</td><td>0.3</td><td>60</td><td>0.2</td></tr>
</table>
The Managing Director is interested in two things viz.:
a) The expected NPV if the appropriate discounting factor is 12%
b) The probability that the NPV will be less than zero.
It is assumed that cash flows are not correlated and NPV is normally distributed.</td><td>5</td><td>3</td></tr>
<tr><td>Q 13</td><td>Comment on the following with respect to digitalization:
1.Project Financing
2.Future are traded on Recognized Exchanges but Forward are traded in OTC. Keeping this in to view, what are the other lines of differences between the two?
OR
“Futures are important tool used to hedge the Risk”. Briefly discuss the functions of Futures with highlighting the MTM</td><td>5</td><td>3</td></tr>
</table>

Q 14	Apollo Ltd. is presently using a truck that has a book value of Rs.6.50 lakh. It is being depreciated on a straight line basis and it will be written off over the next six years. Presently the salvage value of the truck is Rs.3,00,000 and the salvage value after six years will be Rs.50,000. The company is planning to replace the old truck with a new one which is improvised and more efficient. The new truck costs Rs.14 lakh. It will be depreciated on a straight line basis over the period of next six years and will be fully written off at the end of the six year period. The new truck will have a salvage value of Rs.350,000 at the end of the six year period. The general manager of the company has collected the following additional information: • The savings in annual operating and maintenance costs will be Rs.150,000. • The income from the operations will increase by Rs.250,000 per year. • The cost of capital for the company is 12% and the tax rate applicable to it is 30%. You are required to a. Project the cash flows related with the replacement decision. b. Appraise the capital expenditure proposal using the Decision Tree technique and advise the general manager of the company accordingly.	**5**	**3**

SECTION-C 3Qx10M=30 Marks			
Q 15	You are undergoing contract to buy 800 bbl of crude oil . The current price is $ 84.51 per barrel from PTC Petroleum Limited on 4th Oct 2023. Initial Margin is 4% and Maintenance Margin is 2%. The expiry date of contract is 20th Oct 2023. The client has hired you as his financial consultant to let him know about the following: 1. MTM position 2. Margin money which he shall pay or receive to the bank on account of such MTM.	10	3

Date	Market Rate
4th Oct 2023	88.25
5th Oct 2023	87.25
7th Oct 2023	85.25
9th Oct 2023	87.75
10th Oct 2023	81.25
11th Oct 2023	91.50
12th Oct 2023	91.35
14th Oct 2023	98.75
15th Oct 2023	96.25
16th Oct 2023	95.75
17th Oct 2023	85.25
18th Oct 2023	89.25
19th Oct 2023	88.25
20th Oct 2023	87.75

<table>
<tr><td>Q 16</td><td>How Sensitivity Analysis Approach can be used in assessing risk for Oil and Gas Projects?

OR

How company will assess risk (Standard Deviation)? Which Project company will choose using Sensitivity Analysis ?

<table>
<tr><th></th><th>Project U (‘000 Rs.)</th><th>Project V (‘000 Rs.)</th><th>Probability</th></tr>
<tr><td>Initial Cash Outlay (t=0)</td><td>200</td><td>200</td><td></td></tr>
<tr><td>Cash Flow Estimates (t=1-20)</td><td></td><td></td><td></td></tr>
<tr><td>Worst</td><td>40</td><td>0</td><td>0.30</td></tr>
<tr><td>Most Likely</td><td>44</td><td>40</td><td>0.40</td></tr>
<tr><td>Best</td><td>60</td><td>56</td><td>0.30</td></tr>
<tr><td>Required Rate of Return</td><td>9%</td><td>9%</td><td></td></tr>
<tr><td>Economic Life (in Years)</td><td>20</td><td>20</td><td></td></tr>
</table>
</td><td>10</td><td>4</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
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Q 17	The return on Security j and the Market Portfolio for 1 -10 year period are given below:	**10**	**4**

Year	Return on Security j (%) Kj	Return on Market Portfolio (%) Km
1	20	24
2	12	10
3	26	36
4	-8	-16
5	26	20
6	28	32
7	8	14
8	36	30
9	48	60
10	44	50

Assess Security Risk , Security Return, Market Risk and Market Return

SECTION-D **2Qx15M= 30 Marks**			
Q 18	The following information of TGT Ltd is available to you for your perusal: The present book value capital structure is as follows: Rs. In Lakh Equity Capital: 200 10% Preference Capital: 100 Retained Earnings: 200 11% Debentures: 100 12% Loan: 200 Total: **800** Anticipated external financing opportunities are: 1. Rs 100 per debenture redeemable at par; 10 year maturity,14% coupon rate , Discount @11% , Discount on Issue 2%, Floatation Cost 1% 2. Rs 100, 11% preference shares redeemable at par, 10 years maturity, Discount @ 12% . Floatation Cost 1% 3. Equity shares are sold at Rs. 40 . Expected Dividend is Rs. 6 per share . Growth Rate is 10% The corporate tax rate is 20%. There is no Dividend Tax You are required to determine the weighted average cost of capital using the book value weights	**15**	**4**
Q 19	**Read the case and answer the following questions:** Corporates and individuals will soon have one more tool for hedging their currency risks. The Reserve Bank of India (RBI) will next week come out with the contours of the exchange-traded currency options, a top official of the central bank, said. “Very soon (a week or so) you will hear from us as far as allowing exchange traded currency options in SEBI-approved platforms (exchanges),” Mr G. Jaganmohan Rao, Chief General Manger, Foreign Exchange Department, RBI, told a seminar on currency risk management, organised by the PHD Chamber of Commerce and Industry (PHDCCI) here on Saturday.	**15**	**4**

Capital structure table (Rs. In Lakh):

Equity Capital	200
10% Preference Capital	100
Retained Earnings	200
11% Debentures	100
12% Loan	200
	800

He said the RBI had been in discussions with banks and industry participants over the last one year on the issue of exchange-traded currency options. “There had been 43 rounds of discussions in last one year,” Mr Rao said. Currently, currency options are allowed only as over the counter (OTC) products. The RBI Governor, Dr D. Subbarao, in the annual monetary policy statement released in April this year, had announced that the central bank had decided to permit recognised stock exchanges introduce plain vanilla currency options on spot dollar/rupee exchange rate for residents.

In India, the level of hedging as part of currency risk management is quite low. Only 3 per cent of those with forex currency exposure have gone in for hedging their risk, it was pointed out. Meanwhile, Mr Jaganmohan Rao advised small and medium enterprises (SMEs) to limit themselves to simple products (forwards, options and swaps). “Never go for structured products,” he said. On full convertibility of the rupee, Mr Rao said that full convertibility was required, but noted that the country was not yet ready for that.

“We are still to meet certain conditions of the Tarapore Committee report (on full convertibility). But RBI Governor is the best person to answer when India will have full convertibility,” he said in response to a question on full convertibility.

On how much the Indian industry had lost on account of the global financial crisis through the currency channel, Mr Rao said the RBI only had ‘rough estimates' on how much the industry had lost. “We know about the banks and not about industry. We only have some rough estimates on how much industry lost. As and when industry had to make huge payments, we get to see the tussle between industry and bankers and thereby get some more information,” he said. Already, exchange traded currency futures are permitted in two recognized stock exchanges in respect of four currency pairs.

(i): Briefly outline the Summary of the Case-------**8 Marks**

(ii) Considering the Above mentioned case, mention the Speculation with Option and Option Pricing -------**7 Marks**