CHAPTER 28

USES OF CAPITAL

1.   (A)   issuing commercial paper.

Explanation

Large, creditworthy firms can get the lowest cost of financing by issuing commercial paper. Selling receivables to a factor is a higher cost source of funds used by firms with poor credit quality. A committed line of credit requires payment of a fee and represents bank borrowing, which would be attractive to a firm that did not have the size or creditworthiness to issue commercial paper.

(Study Session 9, Module 29.1, LOS 29.a)

Related Material

SchweserNotes - Book 3

2.   (C)   inventories.

Explanation

The quick ratio is usually defined as (current assets - inventories) / current liabilities. The quick ratio excludes inventories from current assets because inventories are not necessarily liquid. It is a more restrictive measure of liquidity than the current ratio, which equals current assets / current liabilities. Current assets that remain in the numerator of the quick ratio include cash and cash equivalents, accounts receivable, and short-term marketable securities.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

3.   (A)   pull on liquidity.

Explanation

When cash payments are made too quickly, the condition is known as a pull on liquidity. A drag on liquidity occurs when cash inflows lag.

(Study Session 9, Module 29.1, LOS 29.b)

Related Material

SchweserNotes - Book 3

4   (A)   slower collections of receivables.

Explanation

Longer operating and cash conversion cycles are frequently signs of liquidity problems. Slower collections or inventory turnover lengthen the operating cycle. The cash conversion cycle is also growing longer, which suggests the company is not stretching payables to offset the lengthening operating cycle.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

5.   (B)   Uncommitted line of credit.

Explanation

Committed lines and revolving lines of credit all contain a commitment by a lender to lend up to a maximum amount, at the borrower's option for some period of time. A firm with lower credit quality may have an uncommitted line of credit which offers no guarantee from the lender to provide any specific amount of funds in the future.

(Study Session 9, Module 29.1, LOS 29.a)

Related Material

SchweserNotes - Book 3

6.   (C)   liquid.

Explanation

Based on the data provided, the analyst can conclude that the company has better short-term liquidity than the industry average (i.e., its competitors) based on the current ratio. The analyst can conclude that Iridescent Carpeting has weaker profitability than its competitors based on the net profit margin and return on equity. The analyst can also conclude that the company has less financial leverage (risk) than the industry average based on the total debt / total capital ratio.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

7.   (C)   secondary sources of liquidity.

Explanation

Secondary sources of liquidity include liquidating short-term or long-lived assets, negotiating debt agreements (i.e., renegotiating), or filing for bankruptcy and reorganizing the company. Primary sources of liquidity are the sources of cash a company uses in its normal operations. Pulls and drags on liquidity refer to factors that weaken a company's liquidity position.

(Study Session 9, Module 29.1, LOS 29.b)

Related Material

SchweserNotes - Book 3

8. (C) **average days of receivables + average days of inventory - average days of payables.**

Explanation

The cash conversion cycle, also called the net operating cycle is:

$$\text{Conversion} = \begin{pmatrix} \text{average days} \\ \text{of receivables} \end{pmatrix} + \begin{pmatrix} \text{average days} \\ \text{of inventory} \end{pmatrix} - \begin{pmatrix} \text{average days of} \\ \text{payables} \end{pmatrix}$$

The cash conversion cycle measures the length of time required to convert a firm's cash investment in inventory back into cash resulting from the sale of the inventory. A short cash conversion cycle is good because it indicates a relatively low investment in working capital.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

9. (C) **receivables turnover is higher.**

Explanation

Higher receivables turnover is an indicator of better receivables liquidity since receivables are converted to cash more rapidly. A lower quick ratio is an indication of less liquidity. Lower trade payables could be related to better liquidity, but could also be consistent with very poor liquidity and a requirement from its suppliers of cash payment.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

10. (B) **too high.**

Explanation

The cash conversion cycle is equal to average days of receivables plus average days of inventory minus average days of payables. High cash conversion cycles relative to those of comparable firms are considered undesirable. A cash conversion cycle that is too high implies that the company has excessive investment in working capital.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

11. (C) **grants more lenient credit terms to its customers than its peers.**

Explanation

More lenient credit terms can be expected to increase days' receivables outstanding and therefore the operating cycle.

For Further Reference:

(Study Session 9, Module 29.1, LOS 29.c)

CFA® Program Curriculum, Volume 3, page 688

Related Material

SchweserNotes - Book 3

12. (A) **negotiating debt contracts.**

Explanation

Secondary sources of liquidity include negotiating debt contracts, liquidating assets, and filing for bankruptcy protection and reorganization. Primary sources of liquidity include ready cash balances, short-term funds (e.g., trade credit and bank lines of credit), and cash flow management.

(Study Session 9, Module 29.1, LOS 29.b)

Related Material

SchweserNotes - Book 3

13. (C) **taking more time to pay its suppliers.**

Explanation

The cash conversion cycle is equal to the operating cycle minus the number of days of payables. If Quixote is extending the time it takes to pay its suppliers, its number of days of payables will increase, and its cash conversion cycle will decrease. Its operating cycle (days of inventory plus days of receivables) is unaffected by the increase in days of payables. Changes in inventory or receivables management would affect both the operating cycle and the cash conversion cycle.

For Further Reference:

(Study Session 9, Module 29.1, LOS 29.c)

CFA® Program Curriculum, Volume 3, page 688

Related Material

SchweserNotes - Book 3

14. (A) **average days of payables for Dunhill is less than for Pierce.**

Explanation

The operating cycle is days of inventory plus days of receivables. The cash conversion cycle is the operating cycle minus days of payables. Therefore, average days of payables are the operating cycle minus the cash conversion cycle. Dunhill's

average days of payables (140 -125 = 15) are less than Pierce's average days of payables (150 - 120 = 30). Which company has higher average days of inventory or receivables cannot be determined from the information provided.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

15. (B) A firm that operates in only one industry.

Explanation

If a firm operates in multiple industries, this would limit the value of financial ratio analysis by making it difficult to find comparable industry ratios.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

16. (B) using trade credit from vendors.

Explanation

Primary sources of liquidity include cash resulting from selling goods and services, collecting receivables, generating cash from other sources and sources of short-term funding such as trade credit from vendors and lines of credit from banks. Filing for bankruptcy and renegotiating debt agreements are best described as secondary sources of liquidity because they are sources to which a firm resorts when in financial distress.

(Study Session 9, Module 29.1, LOS 29.b)

Related Material

SchweserNotes - Book 3

17. (B) operating cycle is shorter than that of its peers.

Explanation

A shorter operating cycle will lead to a shorter cash conversion cycle, other things equal, which is an indication of better liquidity. Higher days inventory on hand, compared to peer company averages, will lengthen the cash conversion cycle, an indication of poorer liquidity. Good liquidity would tend to increase a firm's total asset turnover since a given amount of sales can be supported with less current assets.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

18. (C) operating cycle.

Explanation

Operating cycle = days of inventory + days of receivables, and is the number of days that it takes to turn raw materials into cash from sales.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

19. (C) may have credit policies that are too strict.

Explanation

The firm's average days of receivables should be close to the industry average. A significantly lower average days receivables outstanding, compared to its peers, is an indication that the firm's credit policy may be too strict and that sales are being lost to peers because of this. We can not assume that stricter credit controls than the average for the industry are "better." We cannot conclude that credit sales are less, they may be more, but just made on stricter terms. The average days of receivables are only one component of the cash conversion cycle.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

20. (B) Amount of credit sales.

Explanation

No inferences about liquidity are warranted based on this measure. A firm may have higher credit sales than another simply because it has more sales overall. Cash as a proportion of sales and inventory turnover are indicators of liquidity.

(Study Session 9, Module 29.1, LOS 29.c)

Related Material

SchweserNotes - Book 3

21. (A) Operating cash inflows that fluctuate seasonally.

Explanation

Firms with operating cash inflows that fluctuate seasonally are likely to experience short-term imbalances between cash inflows and cash outflows and must forecast these imbalances to manage their net daily cash positions, for example by arranging short-term borrowing over seasons when operating cash inflows are expected to be relatively low and operating cash outflows are relatively high.

(Study Session 9, Module 29.1, LOS 29.d)

Related Material

SchweserNotes - Book 3

22. (A) **Revolving line of credit.**
Explanation

With an uncommitted line of credit, the lender is not committed to make loans in any amount. A revolving line of credit is typically for a longer period and involves an agreement to lend funds in the future up to some maximum amount. Factoring does not typically involve an agreement for future receivables purchases.
(Study Session 9, Module 29.1, LOS 29.a)
Related Material

SchweserNotes - Book 3

23. (C) **Company Y was 16 days in year 2, an improvement in liquidity compared to year 1.**
Explanation

Net operating cycle is calculated as the number of days of inventory + number of days of receivables - number of days of payables. Company Y's net operating cycles were 33 + 14 -18 = 29 days in year 1 and 24 + 12 - 20 = 16 days in year 2. The decline in net operating cycle days in year 2 indicates an improvement in liquidity. For Company X, the net operating cycle for year 2 was 22 + 16 - 20 = 18 days, an increase from year 1, which was 18 + 14 - 19 = 13 days.
Related Material

SchweserNotes - Book 3

24. (A) **Revolving line of credit.**
Explanation

A revolving line of credit is typically for a longer term than an uncommitted or committed line of credit and thus is considered a more reliable source of liquidity. With an uncommitted line of credit, the issuing bank may refuse to lend if conditions of the firm change. An overdraft line of credit is similar to a committed line of credit agreement between banks and firms outside of the U.S. Both committed and revolving lines of credit can be verified and can be listed in the footnotes to a firm's financial statements as sources of liquidity.
(Study Session 9, Module 29.1, LOS 29.a)
Related Material

SchweserNotes - Book 3

25. (A) **introduce a new product or develop a new market.**
Explanation

Introducing a new product or entering a new market involves sales and expense projections that can be highly uncertain, and therefore require the greatest degree of detailed analysis. Expanding capacity or replacing old machinery typically involve less uncertainty and do not require the same depth of analysis as developing a new product or entering a new market.
(Study Session 9, Module 28.1, LOS 28.a)
Related Material

SchweserNotes - Book 3

26. (C) Sunk costs.

Explanation

Sunk costs are not to be included in investment analysis. Opportunity costs and the project's impact on taxes are relevant variables in determining project cash flow for a capital investment.

For Further Reference:

(Study Session 9, Module 28.1, LOS 28.a)

CFA® Program Curriculum, Volume 3, page 645

Related Material

SchweserNotes - Book 3

27. (A) 8.65%.

Explanation

Cf0 = -775,000, CO1 = 0, F01 = 1, CO2 = 300,000, F02 = 2, CO3 = 400,000, F03 = 1; IRR = 8.6534.

For Further Reference:

(Study Session 9, Module 28.2, LOS 28.b)

CFA® Program Curriculum, Volume 3, page 651

Related Material

SchweserNotes - Book 3

28. (A) $64,582.

Explanation

To determine the net present value of the investment, given the required rate of return, we can discount each cash flow to its present value, sum the present value, and subtract the required investment.

Year	Cash Flow	PV of Cash Flow at 8%
0	-336,875.00	-336,875.00
1	100,000.00	92,592.59
2	82,000.00	70,301.78
3	76,000.00	60,331.25
4	111,000.00	81,588.31
5	142,000.00	96,642.81
Net Present Value		64,581.74

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

29. **(A) Accept both Project P and Project Q.**

Explanation

Project P: N = 5; PMT = 5,000; FV = 0; I/Y = 12; CPT → PV = 18,024; NPV for Project A = 18,024 -15,000 = 3,024.

Project Q: N = 5; PMT = 7,500; FV = 0; I/Y = 12; CPT → PV = 27,036; NPV for Project B = 27,036 - 25,000 = 2,036.

For independent projects the NPV decision rule is to accept all projects with a positive NPV. Therefore, accept both projects.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

30. **(A) sunk cost; externality.**

Explanation

The study is a sunk cost, and the possible increase in sales of a related product is an example of a positive externality.

(Study Session 9, Module 28.1, LOS 28.a)

Related Material

SchweserNotes - Book 3

31. **(B) Accept both projects.**

Explanation

The projects are independent, meaning that either one or both projects may be chosen. Both projects have positive NPVs, therefore both projects add to shareholder wealth and both projects should be accepted.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

32. **(A) $19,113.**

Explanation

10,000 / 1.12   =   8,929

15,000 / (1.12)^2 =   11,958

138,000 / (1.12)^3 =   98,226

NPV = 8,929 + 11,958 + 98,226 - 100,000 = $19,113

Alternatively: CFO = -100,000; CF1 = 10,000; CF2 = 15,000; CF3 = 138,000; I = 12; CPT → NPV = $19,112.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

33. **(A)** **Accept Project P and reject Project Q.**

Explanation

Project P:

N = 5; PMT = 5,000; FV = 0; I/Y = 12; CPT PV = 18,024

NPV for Project A = 18,024 - 15,000 = 3,024.

Project Q:

N = 5; PMT = 7,500; FV = 0; I/Y = 12; CPT PV = 27,036

NPV for Project B = 27,036 - 25,000 = 2,036.

For mutually exclusive projects, accept the project with the highest positive NPV. In this example the NPV for Project P (3,024) is higher than the NPV of Project Q (2,036). Therefore accept Project P.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

34. **(A)** **can accept either project, but not both projects.**

Explanation

Mutually exclusive means that out of the set of possible projects, only one project can be selected. Given two mutually exclusive projects, the company can accept one of the projects or reject both projects, but cannot accept both projects.

(Study Session 9, Module 28.1, LOS 28.a)

Related Material

SchweserNotes - Book 3

35. **(A)** **Arranging financing for capital projects.**

Explanation

Arranging financing is not one of the administrative steps in the capital budgeting process. The four administrative steps in the capital budgeting process are:

(1) Idea generation

(2) Analyzing project proposals

(3) Creating the firm-wide capital budget

(4) Monitoring decisions and conducting a post-audit

(Study Session 9, Module 28.1, LOS 28.a)

Related Material

SchweserNotes - Book 3

36. (C) captured in the project's required rate of return.

Explanation

Financing costs are reflected in a project's required rate of return. Project specific financing costs should not be included as project cash flows. The firm's overall weighted average cost of capital, adjusted for project risk, should be used to discount expected project cash flows.

(Study Session 9, Module 28.1, LOS 28.a)

Related Material

SchweserNotes - Book 3

37. (C) only affect value of the firm's common shares if the project was unexpected.

Explanation

Stock prices reflect investor expectations for future investment and growth. A new positive. NPV project will increase stock price only if it was not previously anticipated by investors.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

38. (C) Neither project.

Explanation

NPV for Project X = $-100,000 + 50,000 / (1.15)^1 + 40,000 / (1.15)^2 + 30,000 / (1.15)^3 + 10,000 / (1.15)^4$

= -100,000 + 43,478 + 30,246 + 19,725 + 5,718 = -833

NPV for Project Z = $-100,000 + 10,000 / (1.15)^1 + 30,000 / (1.15)^2 + 40,000 / (1.15)^3 + 60,000 / (1.15)^4$

= -100,000 + 8,696 + 22,684 + 26,301 + 34,305 = -8,014

Reject both projects because neither has a positive NPV.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

39. (B) The NPV will be positive if the IRR is less than the cost of capital.

Explanation

This statement should read, "The NPV will be positive if the IRR is greater than the cost of capital. The other statements are correct. The IRR can be positive (>0), but less than the cost of capital, thus resulting in a negative NPV. One definition of the IRR is the rate of return for which the NPV of a project is zero.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

40. (A) **Regulatory projects.**
Explanation
Mandatory regulatory or environmental projects may be required by a governmental agency or insurance company and typically involve safety-related or environmental concerns. The projects typically generate little to no revenue, but they accompany other new revenue producing projects and are accepted by the company in order to continue operating.
(Study Session 9, Module 28.1, LOS 28.a)
Related Material
SchweserNotes - Book 3

41. (A) **greater than the internal rate of return (IRR).**
Explanation
When the NPV = 0, this means the discount rate used is equal to the IRR. If a discount rate is used that is higher than the IRR, the NPV will be negative. Conversely, if a discount rate is used that is lower than the IRR, the NPV will be positive.
(Study Session 9, Module 28.2, LOS 28.b)
Related Material
SchweserNotes - Book 3

42. (C) **Yes, based on the NPV and the IRR.**
Explanation
The project should be accepted on the basis of its positive NPV and its IRR, which exceeds the cost of capital.
(Study Session 9, Module 28.2, LOS 28.b)
Related Material
SchweserNotes - Book 3

43. (B) **11.6%.**
Explanation
CF_0 = -$28,000; CF_1 = $7,000; F_1 = 4; CF2 = $6,000; **$F_2$ =** 2; CPT $\rightarrow$ IRR = 11.6175%.
(Study Session 9, Module 28.2, LOS 28.b)
Related Material
SchweserNotes - Book 3

44. (C) **exclude the cost of the market research and include the effect on the sales of jar lids.**
Explanation
Sunk costs should be excluded from cash flows, as they are costs that cannot be avoided even if the project is not undertaken. Externalities, such as positive or negative effects of accepting a project on sales of the company's existing products, should be included in the cash flows.
For Further Reference:
(Study Session 9, Module 28.1, LOS 28.a)
CFA® Program Curriculum, Volume 3, page 645
Related Material
SchweserNotes - Book 3

45. **(A)** The stock price will increase to $30.50.

Explanation

In theory, a positive NPV project should provide an increase in the value of a firm's shares.

NPV of new capital equipment = $50 million - $30 million = $20 million

Value of company prior to equipment purchase = 8,000,000 x $28.00
= $224,000,000

Value of company after new equipment project = $224 million + $20 million
= $244 million

Price per share after new equipment project = $244 million / 8 million = $30.50

Note that in reality, changes in stock prices result from changes in expectations more than changes in NPV.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

46. **(A)** +$1,460.

Explanation

Calculate the PV of the project cash flows

N = 5, PMT = -3,000, FV = 0, I/Y = 9.7, CPT $\rightarrow$ PV = 11,460

Calculate the project NPV by subtracting out the initial cash flow

NPV = $11,460 - $10,000 = $1,460

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

47. **(C)** $326,000.

Explanation

The key is first identifying this as a NPV problem. The minimum price the company should accept for selling the property is the net present value of the mine if the company built and operated it.

Next, the year of each cash flow must be property identified; specifically:

CF_0 = -430,000; CF_{1-7} = +$200,000; CF_8 = -$170,000.

Entering these values into the cash flow worksheet:

CF_0 = -430,000; CO_1 = 200,000; F01 = 7; CO2 = -170,000; F02 = 1; I = 16; CPT NPV = 325,858.76

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

48. **(B)** externalities.

Explanation

Externalities refer to the effects that the acceptance of a project may have on other firm cash flows. Cannibalization is one example of an externality.

(Study Session 9, Module 28.1, LOS 28.a)

Related Material

SchweserNotes - Book 3

49. (A) 7.01%.

Explanation

$CF_0 = -\$550,000$; $CF_1 = \$65,000$; $F_1 = 5$; $CF_2 = \$50,000$; $F_2 = 3$;

$CF_3 = \$350,000$; $F_3 = 1$. CPT IRR = 7.0152. Note that the cash flows in year 9 have to be netted to calculate the IRR correctly.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

50. (B) decisions are based on cash flows.

Explanation

The five key principles of the capital budgeting process are:

1. Decisions are based on cash flows, not accounting income.
2. Cash flows are based on opportunity costs.
3. The timing of cash flows is important.
4. Cash flows are analyzed on an after-tax basis.
5. Financing costs are reflected in the project's required rate of return.

(Study Session 9, Module 28.1, LOS 28.a)

Related Material

SchweserNotes - Book 3

51. (B) increase by the project NPV divided by the number of common shares outstanding.

Explanation

Since the sale was not anticipated by the market, the share price should rise by the NPV of the project per common share. NPV is already calculated using after-tax cash flows.

(Study Session 9, Module 28.2, LOS 28.b)

Related Material

SchweserNotes - Book 3

52. (B) machine 2 should be chosen.

Explanation

The NPV of purchasing machine 1 is 1.20(5 million) − 5 million = 1 million. The NPV of purchasing machine 2 is 1.17(6 million) − 6 million = 1.02 million. Parker should choose machine 2 because it has the higher NPV.

Related Material

SchweserNotes - Book 3