Fundamentals of Healthcare Finance

HCA-445

Final Exam

ANSWER SHEET

1) CCC = [W_d x Cost of debt x (1-T)] + [W_e x Cost of equity] is the equation for calculating corporate cost of capital. True or false
2) The formula for calculating cost of equity is as follows:
   Cost of equity = cost of debt – Risk premium True or false
3) The formula for calculating Cost of debt is as follows:
   Cost of debt = cost of equity – Risk premium True or false
4) Calculate the effective (after-tax) cost of debt for Wallace Clinic, a for-profit healthcare provider, assuming that interest rate set on its debt is 15% and its tax rate is:
   a. 0%
   b. 20%
   c. 40%
5) St. Vincent's Hospital has a target capital structure of 40% debt and 60% equity. Its cost of equity estimate is 15% and its cost of tax-exempt debt estimate is 10%. What is the hospital's corporate cost of capital?
6) Which of the following is the equation for finding the future value of a single starting amount at the end of N years?
   a) $PV \times (1+I)^N$
   b) $FV_N/(1+I)^N$
   c) $N \times (1+I)^N$
   d) None of the above
7) Find the following values for a single cash flow:
   a. The future value of $1,000 invested at 5% for one year
   b. The future value of $1,000 invested at 5% for five years
   c. The present value of $1,000 to be received in one year when the opportunity cost rate is 5%
   d. The present value of $1,000 to be received in five years when the opportunity cost rate is 5%
8) Consider the following net cash flows:

Year	Cash Flow
0	$ 0
1	250
2	400
3	500
4	600
5	600

a) What is the net present value if the opportunity cost of capital (discount rate) is 15%?
b) Add an outflow (or cost) of $1,000 at Year 0. Now, what is the net present value?

9) The director of capital budgeting for Big Sky Health Systems, Inc., has estimated the following cash flows (in thousands of dollars) for a proposed new service:

Year	Expected Net Cash Flow
0	$ (100)
1	70
2	50
3	20

The project's opportunity cost of capital is 10%

a) What is the project's payback period?
b) What is the project's NPV?
c) What is the project's IRR?

10) Great Lakes Clinic has been asked to provide exclusive healthcare services for next year's World Exposition. Although flattered by the request, the clinic's managers want to conduct a financial analysis of the project. An up-front cost of $160,000 is needed to get the clinic in operation. Then, a net cash inflow of $1 million is expected from operations in each of the two years of the exposition. However, the clinic has to pay the organizers of the exposition a fee for the marketing value of the opportunity. This fee, which must be paid at the end of the second year, is $2 million.

d. What are the net cash flows associated with the project?
e. What is the project's IRR?
f. Assuming a project cost of capital of 10 percent, what is the project's NPV?

11) You have been asked to evaluate the proposed acquisition of a new clinical laboratory test system. The system's price is $50,000, and it will cost another $10,000 for transportation and installation. The system is expected to be sold after three years because the laboratory is being moved at that time. The best estimate of the system's salvage value after three years of use is $20,000. The system will have no effect on volume or reimbursement (and hence revenues), but it is expected to save $20,000 per year in operating costs. The not-for-profit business's corporate cost of capital is 10 percent, and the standard risk adjustment is 4 percentage points.

c) What is the project's net investment outlay at Year 0?
d) What are the project's operating cash flows in Years 1, 2, and 3?
e) What is the terminal cash flow at the end of Year 3?

12) Entries for the Warren Clinic 2008 income statement are listed below in alphabetical order. Reorder the data in the proper format.

Bad debt expense	$40,000
Depreciation expense	90,000
General/administrative expenses	70,000
Interest expense	20,000
Interest income	40,000
Net income	30,000
Other revenue	10,000
Patient service revenue	440,000
Purchased clinic services	90,000
Salaries and Benefits	150,000
Total revenues	490,000
Total expenses	460,000

13) Great Forks Hospital reported net income for 2008 of $2.4 million on total revenues of $30 million. Depreciation expense totaled $1 million.
  a) What were total expenses for 2008?
  b) What were total cash expenses for 2008? (Hint: Assume that all expenses, except depreciation, were cash expenses.)
  c) What was the hospital's 2008 cash flow?

14) What is the basic accounting equation?
  a) Total assets = Total liabilities + Equity
  b) Equity = Total assets – Total liabilities
  c) Both a and b
  d) Neither a nor b

15) Three major categories of assets are current liabilities, long-term debt, and equity.
True or false

16) Here is financial statement information on four not-for-profit clinics:

December 31, 2007:	Pittman	Rose	Beckman	Jaffe
Assets	$80,000	$100,000	g	$150,000
Liabilities	50,000	d	$75,000	j
Equity	a	60,000	45,000	90,000
December 31, 2008:				
Assets	b	130,000	180,000	k
Liabilities	55,000	62,000	h	80,000
Equity	45,000	e	110,000	145,000
During 2008:				
Total Revenues	c	400,000	i	500,000
Total Expenses	330,000	f	360,000	l

Fill in the missing values labeled a through l.

a)
b)
c)

d)
e)
f)
g)
h)
i)
j)
k)
l)

17) Please show equation for the following:

Total margin (profit margin)
Operating margin
Return on assets
Return on equity
Current ratio
Days-cash-on-hand
Debt ratio
Debt-to-capitalization ratio
Times interest earned ratio
Cash flow coverage ratio
Fixed assets turnover
Total assets turnover