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SOLUTION OF TEST
IN APPRAISAL OF EQUITY

Possible points: 100

Belgrade, January 12, 2005

Points

1. Defining appraisal assignment includes: 2
   - I Date of appraisal
   - II Purpose of appraisal
   - III Appraiser's qualifications
   - IV Standard and definition of value
   - V Subject of appraisal

   - A I, II, and V
   - B I, II, III, and V
   - $\boxed{\text{C}}$ I, II, IV, and V
   - D I and V
   - E Everything from I to V

2. Which one of the following statements are correct with regard to comparable transactions method appraisal? 2
   - I Data sources are objective.
   - II Results are easily corrected for differences in degree of control.
   - III It is based on prices formed by exceptionally large number of buyers and sellers.
   - IV Easy to find data on transactions with comparable companies.
   - V Data refers to minority packages.

   - A I, II, and IV
   - $\boxed{\text{B}}$ I and II
   - C I, II, IV, and V
   - D Only I
   - E II, III, and IV

3. Basic benefit of presenting balance sheet and income statement in relative terms (common size) is: 2
   - A It classifies similar companies by size of assets and similarity of financial ratios in order to apply comparable companies method.
   - B Provides for analysis of corrections of financial statements.
   - C Links each item of the balance sheet with each item of the income statement in the analysis process.
   - $\boxed{\text{D}}$ Enables easier comparison of a company with the branch average, companies of different size, and historical data.
   - E Enables analysis of sales trends.

4. Three components of DuPont formula for ROE are: 2
   - A Coverage, profitability, liquidity
   - B Leverage, profitability, liquidity
   - $\boxed{\text{C}}$ Leverage, profitability, turnover
   - D Liquidity, profitability, turnover
   - E Coverage, liquidity, turnover

5. Cost approach in appraisal is the most applicable in case of appraisal of 2
   - A Companies that operate with rented assets
   - B Service companies
   - C Labor-intensive companies
   - $\boxed{\text{D}}$ Capital-intensive companies

E Companies with relatively old assets

6. Using balance sheet and income statement in relative terms (common-size), based on the following information calculate the percentage (one decimal) which corresponds to *direct costs* (costs of goods sold) and *short-term liabilities.*

Revenue	1.400
Gross margin	600
Marketing expanses	150
Intangible and other expenses	175
Lease	75
Working capital	120
Fixed assets	850
Short-term liabilities	70
Long-term liabilities	730
Own capital	170

Answer:

Directs costs	57,1 %	(Revenue-Gross Margin)/Revenue	2
Short-term liabilities	7,2 %	Short-term Liabilities/(Work.Cap.+Fix.Assets)	2

7. Theoretical basis of cost approach in appraisal is represented by 2
   - A Anticipation principle
   - B Best use principle
   - C Replacement costs principle
   - D Depreciation principle
   - $\boxed{\text{E}}$ Substitution principle

8. Using provided information calculate *coverage of financial expenses (interest coverage ratio)* and *ROE (return on equity) through DuPont formula (indicate names of components)*

BS	Working capital	100	Short-term liabilities	50
	Fixed assets	150	Long-term liabilities	90
	Total assets	250	Equity	110

BU	Income	175
	Direct costs	25
	Gross margin	150
	Intangible and other expenses	20
	Marketing expenses	20
	Interest expenses	15
	Depreciation	15
	Profit tax	32

Answer:

Coverage of financial expenses	6,33	(EBIT / Financial Expenses)	3
DuPont formula			
1. Profitability (net profit rate)	27,4 %	(Net Profit / Income)	2
2. Turnover of total assets	0,7	(Income / Assets)	2
3. Leverage	2,27	(Assets / Equity)	2
ROE (1x2x3)	43,6 %	(Net Profit / Equity)	2

9. Which group of ratios is the best in measuring financial risk compared to reference companies? 2

A Liquidity and turnover ratios
B Efficiency ratios
C Profitability ratios
$\boxed{D}$ Leverage ratios (indebtedness)
E None of the above

10. The term *investment value* best describes the value from the standpoint of 2
A Rational investor
$\boxed{B}$ Specific individual investor
C Hypothetical investor
D Tender buyer
E Creditor

11. Which of the following statements is *false*? 2
A Purpose of appraisal can influence standard (definition) of value and choice of appraisal method.
$\boxed{B}$ If different appraisal methods are applied, the same appraisal can serve different purposes.
C Purpose of appraisal can influence corrections made on financial statements.
D One purpose of appraisal usually corresponds to one definition of value.
E None of the above is false.

12. Analysis of industry (branch), in which the company operates, should include information on 2
A Financial statements of comparable companies.
$\boxed{B}$ Maturity of the industry, competition, trends, and risk factors.
C Foreign currency exchange trends.
D Projections of domestic product trends.
E Historical financial statements of the company.

13. Discount rate is 2
A Rate of return on total capital invested in company.
B Synonym for depreciation of fixed assets.
$\boxed{C}$ Rate of return used for conversion into present value of cash amount to be received or paid in future.
D Interest rate on investment credits.
E Rate of return on own assets.

14. Presumption that rational investor for certain asset or company will not pay a price higher than the price of the same assets in the market (substitution principle) lays in the basis of 2
A Return approach
B Cost approach
C Investment value
D Liquidation value
$\boxed{E}$ Market approach

15. Appraiser should use *invested capital* as the fundamental category when 2

A Appraising minority package.
B Companies has no credits.
$\boxed{C}$ Capital structure of a company significantly differs from capital structure of comparable companies.
D Capital structure of a company is similar to capital structure of comparable companies.
E There is possibility for a company to assume new debts in near future.

16. Which assets items are subject to corrections (on the basis of appraisal) in appraisal of fair market value by net assets method? 2

A Cash, receivables, inventory
$\boxed{B}$ All items
C Inventory and fixed assets
D Intangible investments
E Long-term financial investments

17. Which final correction should be applied if *minority package* is appraised in a company not traded at the stock exchange market by *method of comparable companies*? 2

A None.
$\boxed{B}$ Discount for unmarketable shares of stock.
C Control premium.
D Discount for lack of control.
E B and D.

18. Main components in return approach in appraisal are 2

A Value of assets and rate of return on assets.
B Projection of profit level for one or several years.
C Realized profit level and value multiplier.
D Capitalization rate and/or discount rate.
$\boxed{E}$ B and D.

19. Invested capital can be defined as 2

I Total assets minus non-interest bearing liabilities
II Interest bearing liabilities plus own capital
III Own capital plus short-term no-interest liabilities
IV Equity

$\boxed{A}$ I, II
B I, III
C II, IV
D II, III, IV
E I, II, III, IV

20. On the basis of provided information calculate *price of own capital* using *buid-up method* and *price of invested capital* using *CAPM method.*

A	Market risk premium	7%
B	Risk free rate	6%
C	Small business risk rate	5%
D	Long-term growth rate	4%
E	Specific company risk	8%
F	Tax rate	25%
G	Price of debt	12%
H	Debt share in invested capital	33%
I	Beta	1.2

Answer:

Rs	Price of own capital (build-up method)	26 %	B+A+C+E	3
Ri	Price of invested capital (CAPM)	21,33 %	(B+I*A+C+E)*(1-H)+G*(1-F)*H	3

21. Discount rate and risk level in a company are reversely proportional. 1
A True.
$\boxed{B}$ False.

22. Price of debt in calculation of average weighted price of capital must be corrected by 2
A Interest expenses
$\boxed{B}$ Tax rate
C Interest income
D Long-term growth rate
E Beta ratio

23. Present value of projected cash flows is calculated on the basis of 2
A Presumptions about midyear revenues
B Presumptions about revenues at the end of year
$\boxed{C}$ Anticipated dynamics of cash flows
D Anticipated dynamics of revenues
E Accounting policies

24. Based on the following data calculate *net cash flow generated by own capital*, *net cash flow generated by invested capital,* and, using data and solution from the task 20, *respective residual values*.

1	Net profit	1.400
2	Depreciation	600
3	Interest expenses	150
4	Profit tax	175
5	Investments in fixed assets	75
6	Investments in TOS	120
7	Net credit increase	850

Note: NT of invested capital should be calculated with given tax amount.

Answer:

Net cash flow from own capital	2.655	1+2-5-6+7	5
Residual value	12.551	2.655*(1+D)/(Rs-D)	5

Net cash flow from invested capital	1.955	1+3+2-5-6	5
Residual value	11.732	1.955*(1+D)/(Ri-D)	5

25. Which of the following information does not have to be contained in the equity appraisal report? 2

I Data, facts, and reasons for making the conclusion on value
II Explanation of the choice and implementation of appraisal method
III Deadlines and fees for composing the report
IV Statements and qualifications of appraiser
V Statement on authenticity of data

A I, II
B II, III
$\boxed{C}$ III
D III, IV
E III, IV, V

26. Data which follows refers to appraisal of 100% equity of the company TGC by net assets method. Based on this data, calculate appraised values of *inventory, fixed assets (land, buildings, and equipment), intangible investments, and own capital.*

Answer:

Appraised value of inventory	830	630+200	1
Appraised value of fixed assets	2.900	D	1
Appraised value of intangible investments	80	G	1
Appraised value of equity (own capital)	2.205	(Assets-Liabilities)	7

BS Balance sheet as of 12/31

	Book	Correction	Appraised	Note
ASSETS	2.645	1.610	4.255	
Cash	135	0	135	
Receivables	210	0	210	
Inventory	630	200	830	B
Total working capital	975	200	1.175	
Net fixed assets	1.600	1.300	2.900	D
Long term sales	70	30	100	F
Intangible investments		80	80	G, Miner. rights
LIABILITIES + EQUITY	2.645	1.610	4.255	
Short-term liabilities	850	0	850	
Long-term liabilities	1.200	0	1.200	
Total liabilities	2.050	0	2.050	
Equity	595	1.610	2.205	

DP Supplemental data

A	Interest expenses	140	Redundant information
B	Unrecorded inventory	200	
	Appraised value of fixed assets		
C	New acquisition price	3.300	
D	Depreciated costs of replacement	2.900	
E	Value in regular liquidation	1.500	
F	Appraised value of long-term sales	100	
G	Appraised value of mineral rights	80	

27. How much is the discount exponent going to be for residual value if the cash flow is projected for 6 years, and cash flows are evenly realized during a year? 2

    Answer: 5,5 (factor in the middle of a year, t-0.5)

28. Which correction of the result should be made if the MVIC/EBITDA multiplier is applied (irrelevant for premiums and discounts), if 100% of invested capital is being appraised? 2
    - A Subtract value of interest bearing liabilities
    - **B** Add value of non-operative assets
    - C Subtract external depreciation
    - D Add residual value
    - E A and B

29. In case market value of property cannot be appraised, IVS instruct using 2
    - **A** Depreciated replacement costs (according to GN 8)
    - B Non-market values (according to IVS 2)
    - C Cost approach (according to IVS 1)
    - D Direct comparison of sales prices (according to GN 1)
    - E Return approach (according to GN 9)

30. Statement on authenticity of data is given by 2
    - A Client (procurer of appraisal)
    - B Appraiser
    - **C** Company being appraised
    - D A and C
    - E B and C