UNIVERSITY OF COLOMBO
FACULTY OF GRADUATE STUDIES

Masters in Development Studies 2015/16

Final Examination – Semester I

MDS 6104 - Appraisal Techniques in Development Projects

Time: Three (03) Hours

Answer **Question No. 1** and any other **TWO Questions**.
(Calculator is permitted. Discount Factor Table will be provided)

Question No. 01.

Use the separate Answer Sheet provided to answer 25 Multiple Choice Questions given in this Section **(Question No. 1 to 15 will ONE Mark each and Question No. 16 to 25 will earn 2.5 Marks each. Total of 40 Marks for this Section)**

1. According to the PMI, 'a Project is a temporary endeavor undertaken to create a unique product, service or result'. In the PMI definition of Project, the term 'Temporary' refers to;

   (a) Cash flows of a project considered for appraisal
   (b) Life span of a project from its initiation stage to evaluation stage
   (c) A period of less than three years
   (d) Life span of a product, service or result created by a project

2. "Need based approach" is one of the famous approaches for identification of Development Projects. In this approach, the whose needs will primarily be considered;

   (a) Needs of the project professionals
   (b) Needs of the potential beneficiaries
   (c) Needs of the political leaders
   (d) Needs of the project funding agency

3. "Project Formulation stage of a development project will consist of three core activities". Identify the appropriate set of three activities from the lists below.

   (a) Pre-feasibility study, feasibility study and detailed design of the Project
   (b) Institutional analysis, financial analysis and economic analysis of the Project
   (c) Collection of data, analysing the data and providing information
   (d) None of the above

4. Financial appraisal of Project ‘A’ has concluded that Net Present Value of the project ‘A’ is positive ($NPV_A > 0$) but according to the economic appraisal, carried out on the same project by the Government agency has concluded that the Net Present Value of the Project ‘A’ is negative ($NPV_A < 0$). If the Project A is accepted for implementation;

   (a) It will bring benefits to the society and the project owner
   (b) It will bring benefits to the project owner but not for the society
   (c) It will bring benefits to the society but not for owner
   (d) It will not bring benefits to either society or owner

5. Development project usually involves with **incremental net cash outflows** or **economic costs** in the initial stage; during the project implementation or construction phase followed by **incremental net cash inflows, or net economic benefits**, in its operational phase. In this statement, the incremental net economic benefits refers to;

   (a) Net economic benefits of a project (–) Net economic cost of a project
   (b) Net cash inflow (–) Net cash outflow
   (c) Net economic benefit with Project (–) Net economic benefit without project
   (d) Present value of net cash inflow (–) initial cash outflow

6. The cash flow equivalence concept is used to depict the relationship between the following two aspects of the cash flow analysis;

   (a) Opportunity cost and cost of capital
   (b) Debt financing and equity financing
   (c) Time value for money and cash flow equivalence
   (d) Initial cash flow and salvage value of a project

7. Which of the following set of parameters represents the discount factor description of present value estimation when the future value is given;

   (a) (P/A, r, n)
   (b) (P/G, r, n)
   (c) (P/F, r, n)
   (d) (F/P, r, n)

8. Cost incurred for calling public opinion to identify a suitable location for nuclear power plant project is referred as

   (a) Sunk cost
   (b) Opportunity cost
   (c) Identification cost
   (d) Investment cost

9. If PV = Rs. 1000 $(1/1+0.09)^6$, identify the cost of capital that has been considered for present value estimation in the referred case.

   (a) 01%
   (b) 06%
   (c) 09%
   (d) 10%

10. You enter into an agreement with an Insurance Agency to pay your quarterly premium at the beginning of each quarter for next 10 years as per your agreement. This type of annuity payment is referred as:

    (a) Ordinary annuity
    (b) Annuity due
    (c) Level annuity
    (d) Perpetuity

11. The NPV of a Project is Positive (NPV > 0) might end up with Negative (NPV <0) if company decides to finance with debt financing

    (a) Agree
    (b) Disagree
    (c) Can't state as there is no required information
    (d) None of the above

12. If the total investment made using a loan and loan repayments are included in the estimated cash flows;

    (a) It is amounting to double counting
    (b) It is leading to improve financial viability
    (c) It is avoiding all possible omissions
    (d) It is ensuring the repayment of loan timely

13. Discounted Payback Period criterion is preferred than the Simple Payback Period criterion because:

    (a) It represents the liquidity aspect
    (b) It represents the return on investment aspect
    (c) It represents the time value for money aspect
    (d) It represents the profitability aspect

14. In the development project analysis, if the acceptance of a project leads to acceptance of another project beforehand or simultaneously, these projects are known as:

    (e) Independent Projects
    (f) Contingent Projects
    (g) Mutually Exclusive Projects
    (h) Substitutive Projects

15. "There is a negative relationship between the discount rate and the discounted cash flow to represent the time value for money". Will you agree with this statement

    (e) Agree
    (f) Disagree
    (g) Can't say without additional information
    (h) None of the above

16. What are main factors that are leading to market failure and affecting the resource allocative efficiency in the economy?

    (a) Information Asymmetry
    (b) Public Goods
    (c) Externalities
    (d) All of above

17. What are the core characteristics of public goods which distinguish the public goods from private goods?

    (a) Non rivalry and excludability
    (b) Rivalry and non-excludability
    (c) Rivalry and excludability
    (d) Non-rivalry and non-excludability

18. If a company is considering a project for investment at the cost of Rs. 70 Mn. The company asks you to recommend two most appropriate criteria to assess the profitability and liquidity aspects of the said project. Which of the following criteria set, you would recommend:

    (a) Modified Internal Rate of Return and Internal Rate of Return
    (b) Net Present Value and Internal Rate of Return
    (c) Net Present Value and Discounted Pay Back Period
    (d) Benefit – Cost Ratio and Profitability Index

19. Which of the following statements concerning the Modified Internal Rate of Return is **not** true?

    (a) The MIRR is rate at which the IRR equals to zero
    (b) The MIRR assumes that intermediate cash flows of the project is reinvested at the cost of capital
    (c) The MIRR is the upper limit for increasing the cost of capital without affecting the viability of the project
    (d) The MIRR takes into account the time value of money

20. ABC Project Ltd sells its Product X at Rs.25.00 per Unit. If the fixed cost is Rs.200,000 and variable cost is Rs.15.00 per Unit. How many units must be sold to be in BEP

    (a) 10,000 Units,
    (b) 40,000 Units,
    (c) 20,000 Units
    (d) 66,667 Units

21. The cash inflows and outflows associated with a project are reported in the table as follows: Based on the given cash flows, the simple payback period of the project would be;

Year	**Cash Flows (Rs)**
0	**(120,000)**
1	40,000
2	50,000
3	60,000
4	20,000

(a) Payback period will be 2 years and 3 months
(b) Payback period will be 2 years and 6 months
(c) Payback period will be 3 years
(d) Payback period will be 2 years

22. If the Conversation Factor is 0.95 and the Market Price is Rs. 1,500 per Kg of Ceylon Tea. What is the Shadow Price of the Ceylon Tea?

(a) Rs. 1,425 per Kg
(b) Rs. 1,550 per Kg
(c) Rs. 1,390 per Kg
(d) Rs. 1,400 per Kg

23. NPV of a Project is Rs. 45,500 and the initial investment of the Project is Rs. 200,000. What is the Profitability Index of the Project?

(a) PI = 1.30
(b) PI = 1.13
(c) PI = 1.33
(d) PI = 1.23

24. A country declared that its total investment is 25% of the Gross Domestic Product and its Incremental Capital Output Ratio is 4.25. What is the growth rate, the country could expect in the particular year?

(a) 7.55%
(b) 6.77%
(c) 5.88%
(d) 5.75%

25. According to the official announcement of the government, the official exchange rate is US$ 1 = Rs.145 and Economic Exchange Rate is US$ 1= Rs. 175. What is the Foreign Exchange Rate Premium (FEP)

(a) FEP = 0.21
(b) FEP = 0.22
(c) FEP = 0.23
(d) FEP = 0.24

(End of the Multiple Choice Questions)

QUESTION NO. 02.

Consider the following Project description and answer the questions given below to the project description

United Lubricant Ltd has decided to appraise three mutually exclusive opportunities to locate a lubricant blending plant in the central region of the country to increase its production capacity in order to its market share in the country. Opportunity cost of capital is 20% per annum. Specific information related to the project alternatives are given below.

Description	Alternative A	Alternative B	Alternative C
Investment	50	40	45
Plant Capacity (Ltr / Hr)	800	600	500
Lease of Land (Rs. Mn / Yr)	1.25	1.00	1.50
Remuneration (Rs. Mn / Month)	0.30	0.50	0.80
Electricity (Rs/ Hr)	24,000	21,000	32,000

The common features of the above three project alternatives are that, Useful life span of the lubricant blending will be 05 years in all three project alternatives. No residual value will be existed at the end of useful life span of the plant. Lubricant blending plant will operate for 10 hours a day and 300 days a year. Cost of base oil which is the raw material for lubricant blending would be Rs. 150/- per litre and Rs. 25/- would be the cost of empty plastic bottle with a litre capacity. For very litre of lubricant, 02 litres of base oil are required. Payable Nation Building Tax (*which is paid on the selling price*) is 02% for every litre of lubricant. Petroleum Royalty of Rs. 05/- per litre of base oil is required to be paid to the Petroleum Corporation. Transport cost between the plant and the market will be Rs.6,000 for each batch of 1,000 bottles of lubricant. United Lubricant Ltd must have an annual insurance with premium of 5% of the investment value of the blending plant. Cost annual of lubricant blending license will be Rs. 1.25 Mn. Expected market price of one litre bottle of lubricant will be Rs. 400.00

<u>You are required to provide answer for following questions</u>

(a) Estimate the variable cost per bottle of one litre of lubricant sold under each project alternative and their respective contribution per litre bottle? **(03 Marks**)

(b) Estimate the cash flow breakeven levels of sales (in bottle per year) pertaining to these project alternatives and comment on their implication towards viability of appraisal among these alternatives (**04 Marks)**

(c) Forecast the Profit and Loss Statement for an operational year pertaining to relevant project alternatives, you would consider for detailed viability appraisal and estimate their Accounting Rate of Return (**04 Marks**)

(d) Estimate appropriate the Net Present Value and the Benefit Cost Ratio of the relevant project alternatives in view of identifying the most advantageous alternative for investment and advise the United Lubricant Ltd on the best alternative **(09 Marks**)

(Total 20 Marks)

QUESTION NO. 03

(a) What do you understand by the 'Baum's Project Cycle" in the context of a Development Project **(04 Marks)**

(b) Analyse the applicability (strengths and weaknesses) of the Net Present Value (NPV) and the Internal Rate of Return (IRR) criteria for financial appraisal of the mutually exclusive projects **(06 Marks)**

(c) ABC Dairy Ltd is considering an investment opportunity to produce yoghurt with an initial cost of Rs. 09 Mn. The estimated annual net benefits of yoghurt production are as follows:

Description	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6
Net Benefits (Rs. Mn)	4.0	4.5	5.0	4.0	3.0	2.5

Acceptable discount rate of ABC Dairy Ltd is 15%. Estimate the NPV and Profitability Index of the proposed Dairy Production and provide recommendation to ABC Dairy Ltd. **(10 Marks)**

(Total 20 Marks)

QUESTION NO. 04

(a) What do you understand by the concept of "Shadow Prices" in the economic analysis of development projects **(03 Marks)**

(b) "Why is it argued that market price is not appropriate in determining the economic costs and benefits of a development project? **(05 Marks)**

(c) Consider Exportable Tea with FOB Price = US$ 110 / Kg and Export Tax of 08% is being imposed to keep the domestic price below the FOB Price of Tea, Official Exchange Rate US $ 1 =Rs. 150, and FEP = 0.20. Estimate the following parameters **(06 Marks)**

i. What is the Economic Exchange Rate?.
ii. What is the Financial Price of Tea (Rs. Per Kg)?
iii. What is the Economic Price of Tea (Rs. Per Kg)?

(d) Assume that Company A plans import Cement for its Hydro Power Project. CIF Price of the Cement US $ 1500 / MT, Import Tariff is 20% / MT, Value Added Tax is 10% / MT. Official Exchange Rate is US$ = Rs.150 and Exchange Rate Conversion Factor is 0.90 (*Value Added Tax will be collected on the total of the CIF Price and Import Tariff*). Estimate the following parameters? **(06 Marks)**

i. What is the Economic Exchange Rate for Cement Imports?
ii. What is Financial Price of Cement per MT at Port?
iii. What is the Economic Price of Cement per MT at Port?

(Total 20 Marks)

QUESTION NO. 05

(a) What are factors that influence the time value for money **(03 Marks)**

(b) In 2015, ABC Co Ltd has a capital structure of Common Stock of Rs. 80 Mn, Debt of Rs. 25 Mn and Preferred Stock of 95 Mn. Cost of Debt is 18%, Stated Dividend of Preferred Stock of Rs. 15, Market Price of Preferred Stock is Rs. 100 and Cost of Common Stock is 15%. Corporate Tax Rate is 5%. Estimate the Weighted Average Cost of Capital (WACC) of ABC Co Ltd. **(3 Marks)**

(c) Net Present Value (NPV) and Internal Rate of Return (IRR) Criteria could provide conflicting ranking of projects". Explain the factors that are leading to conflicting ranking of projects between the NPV and the IRR? (**08 Marks**)

(d) How does the Modified Internal Rate of Return differ from the internal rate of return? **(06 Marks)**

(Total 20 Marks)

Question No. 06

Write brief note on any four (4) of the aspects given below.

a) Border Parity Pricing
b) Incremental Analysis of Projects
c) Discounted Payback Period
d) Depreciation in Project Analysis
e) Mutually Exclusive Projects
f) Incremental Capital Output Ratio (ICOR)

(05 Marks x 4 = 20 Marks)

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FACULTY OF GRADUATE STUDIES
Master in Development Studies – 2015/2016
Final Examination (Semester -1)
MDS 6104: Appraisal Techniques in Development Projects

ANSWER SHEET

ALL Questions in the Part 1 are to be answered. Mark Tick (√) in the appropriate box against the Question No to mark your answer.

Question No	Answer (a)	Answer (b)	Answer (c)	Answer (d)
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UNIVERSITY OF COLOMBO
FACULTY OF GRADUATE STUDIES

Masters in Development Studies 2015/16

Final Examination – Semester I

MDS 6101 - Economic Growth and Development

Time: Three (03) Hours

All questions carry equal marks

Answer only five (05) questions

1.
   i. Critically evaluate the difference between economic growth and economic development

   ii. Discuss at least five (05) major development issues faced by Sri Lanka at present

2.
   i. "Economic development cannot be considered as a linear process" Do you agree with this statement? Explain your answer.

   ii. Discuss the key features in Solow Growth Model and its relevance in today's context

3.
   i. Critically evaluate the at least two development models discussed under the International Dependency Revolution school of thoughts.

   ii. Discuss differences between policy prescriptions of the International Dependency Revolution School and that of the Neoclassical School of thoughts.

4.
   i. Discuss the role of the public sector in economic development and critically evaluate as to whether Sri Lankan public sector t lives up to this role.

   ii. Critically evaluate how geography and institutions may account for the huge per capita income disparities across countries and regions. Relate your answer to a particular country of your choosing.

5.
   i. Identify key determinants of log-run economic growth and development found in the literature.

   ii. How does social capital promote economic development? Explain your answer.

6. Discuss the importance of social capital in the process of economic development. Critically evaluate the level of social capital in Sri Lanka

7. At present, Sri Lanka is experiencing a twin-deficit (budget deficit and balance of payment deficit). Suggest some policy prescriptions to resolve this situation

8.
   i. “Political stability and economic policy consistency and continuity are essential for economic development” Do you agree with this statement? Explain your answer by highlighting theoretical foundations for or against your position

   ii. Critically evaluate the role of the private sector in the process of economic development