

**Roll No.** \_\_\_\_\_  
(Do not write anything on question paper except Roll No.)  
[This paper consists of TWO Pages]

**Jagan Institute of Management Studies**  
**End-Term Examination, September-October, 2017**  
**Trimester IV – PGDM 2016-18**

***Financial Modelling***

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**Q 6**      Read the case and answer the question given at the end.

With the mission to improve the road infrastructure of the country, Govt of India is undertaking to build / expand some sections of National Highways under NHDP (National Highways Development Programme). Being a leading infrastructure player of the country, one such project has been offered by the govt. to XYZ Infra Developers Pvt. Ltd. You are the investment analyst of XYZ Infra and have been asked by your CEO to advise if the project is financially viable (through calculation of DSCR)/ profitable (through calculation of Project IRR and Equity IRR).

The following information has been provided by the ministry of roads and highways, to your company:

The section of NH-80 from Mokama to Munger in the state of Bihar, is to be developed into a 4 lane road. The length of the highway is 69.23 km. The said development shall be carried out on BOT basis (Annuity)<sup>11</sup>. The period of construction granted is 2 years and the total concession period is 15 years. Pls note concession period includes the construction period.

The construction activity is scheduled to commence from 1<sup>st</sup> April 2018 and shall be completed by 31<sup>st</sup> March 2020. The Scheduled COD date is 1<sup>st</sup> April 2020. The developer is entitled to receive annuity amount of Rs 40 crores at the end of every 6 months starting from COD for the next 13 years. The first annuity shall be received on 30<sup>th</sup> September 2020; and every 6 months thereafter.

### **Budgeting & project planning**

You call an internal meeting with the technical head of your company to understand the costs involved. The following are the notes you prepare.

- Estimated cost of construction, including material cost, engineering / design cost, labour and machinery cost is estimated to be Rs 390 cr referred to as the “EPC Cost”. It is further, advisable to budget a contingency of 2% of this cost.
- In addition, the company shall be required to take all necessary statutory, regulatory / environment clearances and permissions; cost of legal documentation and other overheads are expected to be around Rs 4 cores.
- During the operational phase, (ie after construction and development of road is completed), the following expenses are expected:
  - o Routine maintenance cost - Rs 5 lakhs **PTO** (annual escalation of 5%)
  - o Insurance expenses – 0.20% of the EPC expenses (annual escalation of 5%)

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1 BOT (annuity) stands for Build Operate and Transfer model of Public Private Partnership (PPP). Under this annuity model, the developer constructs the road and maintains it for the Concession Period (say 25 years); in turn after the road is developed, the government pays a fixed amount (called “annuity”) to the road developer every 6 months, for the entire concession period.

- o Admin & overhead expenses – Rs 50 lakhs per year (annual escalation of 5%)
- Depreciation rate (SLM) – 7.69% pa
- As an incentive by the government to promote infrastructure development, the tax rate for the company has been reduced to 20% pa (flat).
- The project planning department came up with the following schedule of capital expenditure for EPC <sup>2</sup>cost:

June 2018	Sep 2018	Dec 2018	Mar 2019	June 2019	Sep 2019	Dec 2019	Mar 2020	TOTAL
7%	9%	12%	12%	12%	13%	17%	18%	100%

### Bank Finance

Next day, you meet your banker to understand the financing strategy. The take away from the meeting is that the project can be financed at a debt equity ratio of 70:30. Project shall be funded in D:E ratio.

The rate of interest applicable on the bank loan shall be 11.00% p.a.

The semiannual repayment pattern of the loan shall be as under:

Sep 2020	Mar 2021	Sep 2021	Mar 2022	Sep 2022	Mar 2023	Sep 2023	Mar 2024	Sep 2024	Mar 2025	Sep 2025
3.50%	3.50%	3.50%	3.75%	3.75%	4.00%	4.00%	4.50%	4.50%	5.00%	5.00%
Mar 2026	Sep 2026	Mar 2027	Sep 2027	Mar 2028	Sep 2028	Mar 2029	Sep 2029	Mar 2030	Sep 2030	Mar 2031
5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%

### Question:

You have to prepare the projected financial statements (P&L, cash flows and Balance sheet) for the entire Concession Period and advise your CEO about the investment decision with respect to this project.

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