Bhende Dhawal Dhanraj
Roll Number: 16MI31022

Solution:

For my Roll Number, 16Mi31022 and using given data for 4 coal project following values of NPV and IRR have been obtained

Precision is chosen to be 0.01 while calculating IRR

Coal Block/ NPV, IRR	**Panihati Coal Block**	**Ekchakra Coal Block**	**Remuna Coal Block**	**Bhadradri Coal Block**
NPV	-50.2283	-21.27	61.64	42.54
IRR	6.26%	10.27%	16.89%	16.44%
Discount rate	11.4%	12.70%	10.40%	11.40%

Discussion:

- Net Present Value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows over a period of time.
  Internal rate of return (IRR) is a calculation used to estimate the profitability of potential investments.
- If the IRR is above the discount rate, the project is feasible. If it is below, the project is considered not doable
- If a discount rate is not known, or cannot be applied to a specific project for whatever reason, the IRR is of limited value. In cases like this, the NPV method is superior. If a project's NPV is above zero, then it's considered to be financially worthwhile
- Long projects with fluctuating cash flows and additional investments of capital may have
- In our Case, Since Discount rate is known we can use IRR to be the deciding factor.multiple distinct IRR values.

Recommendation:

- Project 3 (Remuna Coal Block) and Project 4 (Bhadradri Coal Block) are beneficial for investment as in this case, IRR is above the discount rate and NPV is positive.
- By looking at NPV and IRR, Project 3 (Remuna Coal Block) will be best to invest as it will give maximum return.
- Gopinath should invest in Remuna Coal Block and Bhadradri Coal Block if he wants to invest in two projects or he should go with Remuna Coal Block which will give maximum return.