

Assignment - 1

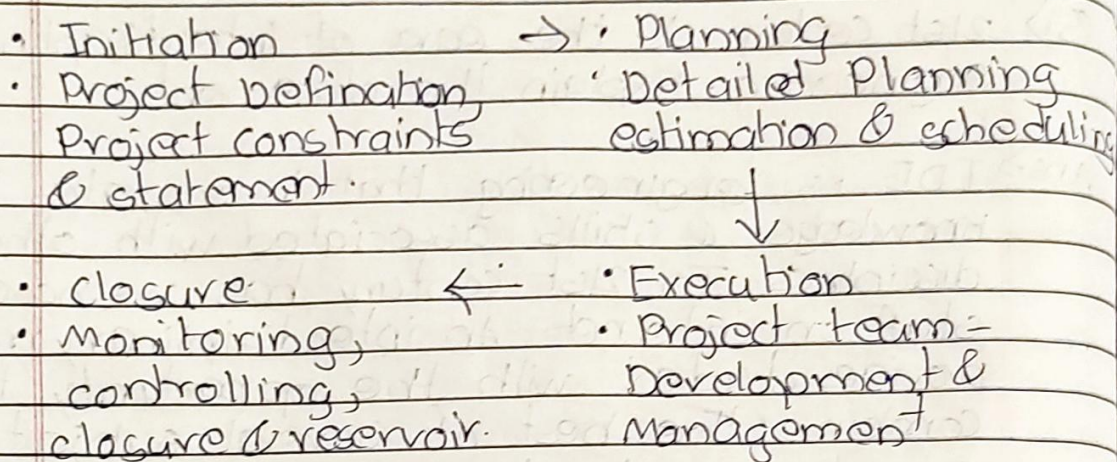
Q1) 21st century is the era of interdisciplinary engineering. Explain the statement.

Ans → IDE is engineering that incorporates the knowledge & skills associated with other disciplines. In 21st century has we have all stuff on internet. An interdisciplinary major provides student with the opportunity to combine the best of several subject areas around a single theme. Ex - If you're working on complicated products like a car, plane or missile, then a materials eng. also knowledge from numerous disciplines to help out other eng in numerous disciplines to get their job done.

Q2) Differentiate b/w roadways & Railways.

Roadways	Railways
(1) Door to Door	station to station
(2) Any distance	long distance
(3) low/medium speed	High speed
(4) less	more.
(5) Any Automobile	Trains only
(6) No Major Control	Signaling & interlocking of rails
(7) less Maintenance	More than roads.

Q3) Explain the project cycle with neat diagram



Q4) Briefly explain the resource Management.

Ans) It is the process of planning, scheduling and allocating resources in the best possible way. Resources can be anything from people to machinery. It is important because it gives an overview of everything enables utilization planning helps solves problems before they start & gives more control over the project.

A project management plan in a 3 to steps process including: -

- ① Knowledge of all resources.
- ② Quantity of resources
- ③ Schedule for the resources.

Q5) Describe how drone technology is helpful in civil engineering?

→ Uses of drones in surveying Application -

① Land Surveying -

They generate high resolution orthomosaics & cadastral maps.

② Land Management & development -

Images taken accelerate & simplify top surveys for land management & planning

③ Precise Measurement -

For highly accurate distance & surface measurement

④ Stockpile volumetric measurement -

It is used to calculate stacks numbers or for monitoring purpose

⑤ Slope monitoring -

Used to examine the existing social & environmental conditions of the sites & consider the impact of different resources.

(Q6) Define resource Management. Explain briefly 'how to create resource management plan'.

→ Resource planning is the process of identifying, forecasting & allocating various types of business resources to the project at the right time & cost.

• Steps to create Resource Management plan

- ① Determine the Resources needed for the project.
- ② Match the right resource to the right tasks.
- ③ Budget the Right amount of time for each resources
- ④ Schedule Resources Based on Projected available.
- ⑤ Keeps a pulse on project progress.
- ⑥ Expert to make adjustments.
- ⑦ Perform Post - Project Analysis.

(Q7)

Station	line observed		Diff	Obs Ind	Corr	Corr	Corrected	
	FB	BB					FB	BB
A	AB 66°15'	244°	177°45'	60°30'	2°15'	60°30'	66°15'	246°15'
B	BC 129°45'	313°	183°15'	114°15'	-2°15'	114°15'	132°	312°
C	CD 218°30'	37°30'	181°	34°30'	-1°	34°30'	217°30'	37°30'
D	DA 306°45'	126°45'	180°	90°45'	0	90°45'	306°45'	126°45'

$$\Sigma = 360^\circ$$

$$\begin{aligned} \Sigma &= (2n - 4) \times 90^\circ \\ &= 4 \times 90^\circ = 360^\circ \end{aligned}$$

Q88) Explain with neat sketch 2 principle of surveying. Differentiate b/w plane & geo surveying.

Ans) There are 2 principle of surveying are:-

Plane Surveying

Geodetic surveying

① Earth surface is consider as a Plane surface.

① Earth surface is consider as curved surface.

② The curvature of earth is ignored

② The curvature of earth is considered.

③ carried out for small area $< 250 \text{ km}^2$

③ carried out for a large area $> 250 \text{ km}^2$

Q89)

Station	B.S	I.S	F.S	H.I	Reduced level	Remark.
①	0.855			500.855	500	
		1.545			499.31	
		2.335			498.62	
		3.115			497.74	
		3.825			497.03	
	1.880		0.455	501.78	500.4	
		2.055			499.725	
		2.875			498.895	
		3.455			498.325	
	1.015		0.585	502.21	501.195	
		1.850			500.36	
		2.755			499.455	
			3.845		498.365	

→

Q10) Discuss in brief Remote sensing with application.

Ans → Remote sensing is the securing of data about an object or phenomenon without connecting with the object.

• Application of remote sensing.

- ① Geology
- ② Agriculture
- ③ Land use planning
- ④ Geographic information system mapping

Q11) Enlist application of -

Ans → a) GPS -

- ① GPS helps in navigation.
- ② GPS is used in Geodetic control security.
- ③ With the help of GPS, the cadastral survey provide accurate result.

b) GIS -

- ① Remote Sensing
- ② watershed analysis
- ③ Transportation
- ④ Pollution Monitoring
- ⑤ Resource Management
- ⑥ Terrain Mapping

c) Photogrammetry -

- ① Mapping
- ② Archaeology
- ③ Civil eng.
- ④ Non-Topographical
- ⑤ Geology
- ⑥ Structural Eng.
- ⑦ Medicine
- ⑧ Sports