

Question 2:

From simple molecules to monomers:	~6 points
Reducing atmosphere, sea floor vents, space (comets, meteorites, IDP)	~3 points
Energy source: e.g., lightning, cosmic rays, etc.	~3 points
From monomers to polymers:	~6 points
Remove water and need energy; correct linkage	~3 points
Warm tide pool, clay, Zinc ions as catalyst, etc	~3 points
Transition to life:	~8 points
RNA world: Ribozyme + incorporation of proteins	~ 4+4 points
Protein first: Interpreters + incorporation of nucleic acids	~ 4+4 points
Clay life: Replication of impurities + genetic takeover	~ 4+4 points

Points are flexible depending on explanations. Excellent explanation for one part can compensate those that are not so good.

Question 4:

Description of the idea and the steps in the first PR experiment:	~10 points
Assume that Martian life adapted to Martian condition and that Martian organisms incorporate CO ₂ , e.g., like a photosynthesis process	~4 points
Expose Martian soil to CO ₂ with carbon 14	~3 points
Pyrolize the soil to release CO ₂	~3 points

Why carbon 14 was used (can be sensitively traced)	~3 points
Explanation of the first experiment	~3 points
The control experiments and their implications	~4 points

Question 5:

Viking:	
General description of the mission (launch time, instruments, goals, etc)	~ 12 points
The GCMS experiment	~ 2-3 points
The gas exchange experiment	~ 2-3 points
The labeled release experiment	~ 2-3 points
Some details are needed for the experiments listed above.	
Again points are flexible depending on explanations	

Other missions:

Description of the mission, e.g., mission schedule, equipments, etc	~12 points
Scientific goals and/or findings	~4 points
Relation to the course (e.g., how the mission affected or will affect your choice of n_e or f_1)	~4 points