Assessment 5
Explanation

Guide to Responding

Summarizing a scientific explanation involves identifying the phenomenon being explained and clearly stating the central claims that scientists offer when giving their explanation of this phenomenon.

Describing an account of explanation involves specifying, in an abstract way, the account’s claims about the conditions under which something is a scientific explanation, and then giving examples (of phenomena and claims) in which these conditions are satisfied.

Applying an account of explanation to a scientific explanation involves reconstructing the way in which scientists communicate the explanation in order to make transparent whether, for each element the account of explanation requires of a scientific explanation, that element is present or absent.

For example, applying the deductive-nomological account of explanation to Newton’s explanation of the shape of planetary orbits would involve stating the laws to which Newton appealed in his reasoning, along with the auxiliary assumptions to which he appealed, and then demonstrating that there is a valid deductive argument that has all of these claims as premises and his claim about orbit shape as a conclusion. (Of course, if the argument is not valid, or if Newton’s reasoning does not involve an appeal to laws, one would infer that the deductive-nomological account does not apply to Newton’s explanation.)

Assessing which of two accounts better explains why a scientific explanation is explanatory involves providing an argument to the effect that one of the accounts provides more insight into, or a better understanding of, why the scientific explanation is explanatory. Reasons one might give include: only one of the two accounts applies to the scientific explanation; one of the two accounts better resembles the way in which scientists themselves communicated the explanation; and so on. There is room for creativity here, provided that you identify some difference between the two accounts and explain why that difference makes one account better than the other.