ANSWERS BY RELATIONAL ALGEBRA

4) $\pi_{Name}\left(\sigma_{RegNo}\,Research\,Instute \bowtie \sigma_{RegNo}\,Workshop\right)$

5) $\pi_{Name}\left(\pi_{e\text{-}mail}\left(\left[\sigma_{JobId}\,Apply\text{-}For\right] \bowtie \pi_{JobId}\left[\sigma_{q}\,JobAd\right]\right)\right)$

$q : (Subcategory = \text{"Biology"}) \wedge (Recruter\,Name = \text{"Meta"})$

6) $O\left(salary\,A\left[\sigma_{e\text{-}mail}\,Resume \;⟕\; \pi_{e\text{-}mail}\left(\sigma_{mainCat.}\,Reg.Pr.Dicip\right)\right]\right)$

O : Order by ascending, salary A : Take average by salary attribute.
(After ordering, second row is the answer in solution table)

7) $\pi_{Name,title,C(program)}\left(\sigma_{RegNo}\,Training \;⟕\; \sigma_{C(users)>30}\,Enrol\right)$

C : count (aggregate function), ⟕ : Left Outer join

8) $\pi_{Name,Surname}\left(\sigma_{C(q)=0}\,Registered\right)$, $q = \sigma_{e\text{-}mail}\,Resume$

C : count

9) $\pi_{Name,Surname}\left(\sigma_{e\text{-}mail}\,Registered \bowtie \pi_{e\text{-}mail}\left(\sigma_{q}\,Authorised\_Cantry\right)\right)$

q : Registered.Nation ≠ Authorised_Cantry.Cantry