ANTCOLONYOPTIMIZATION(*S, E, G, M*)

▷Input: Location of start city *S*, location of end city *E*, *G*(*V*, *E*) of all the cities selected and Set *M* of ants.

▷Output: Path route *P* of the result.

1 **for** *i* 🡐 1 **to** |C| **do**

2 *distmat[i][j]* 🡐 distance between city i and city j

3 **procedure** SETINITINFORMATION

*4* ***for*** *kM* ***do***

5 Let *rk1 be the starting city for ant k*

6 *Jk(rk1)* 🡐 *V* – {*rk1*}

7 /\* the set to be visited for ant *k* in city *r* \*/

8 *rk* 🡐 *rk1*

9 /\* city the ant *k* located in \*/

10 **end procedure**

11 **procedure** ROUTES

12 **for** *i* 🡐 1 to *|V|* -1 **do**

13 **for** *kM* **do**

14 Select next city *sk* from the formula mentioned

15 add *edge(rk, sk)* to *Tourk*

16 **end procedure**

17 **procedure** UPDATE

18 Compute *Lk kM*

19 /\* the length of tour of ant *k* \*/

20 Update *r,s* from the formula mentioned

21 **end procedure**

22 procedure MAIN

23 **for** *edge(r,s) E* **do**

24 *r,s*🡐 *0*

25  *r,s*🡐 *1/distmat[i][j]*

26 **while** Not End\_Condition **do**

27 SETINITINFORMATION

28 ROUTES

29 UPDATE

30 **end procedure**