Quiz 1

Consider the following cipher text that is encrypted using Substitution cipher:

Va vh j sltt-xrosr lhajutvhglb ijma agyocngoca agl fjrd-bvflrhvorjt soytbh oi agl fctavklyhl agja foha yljttd nylja bvhmoklyvlh jyl oslb ao orl uyvli foflra oi vrhwvyjavor. Aglyl'h j toa oi hwjblsoyx ivyha, oi mocyhl, uca sgja mtvrmglh agl sgotl agvrn vh agl hvnga oi, hjd, j ijttvrn jwwtl oy j uovtvrn xlaatl oy agl sjaly htvwwvrn okly agl lbnl oi agl ujag. Hoflagvrn nolh mtvmx vrhvbl agl ouhlykly'h gljb jrb aglr lklydagvrn ijtth vrao wtjml. Agl hgjwl oi BRJ, va vh wowctjytd hjvb, oslh vah bvhmoklyd ao agl mgjrml hvnga oi j hwvyjt hajvymjhl sglr agl hmvlravha'h fvrb sjh echa ja agl yvnga ylmlwavkl alfwlyjacyl. Gjb gl chlb agl ltlkjaoy, agl sgotl hmvlrml oi nlrlavmh fvnga gjkl ullr j noob bljt bviilylra.

Agvh vh agocnga oi jh hoflgos sorblyict. Va vhr'a. va vh ayjnvm. Tvaatl wjyavmtlh oi vrhwvyjavor htlla agyocng agl crvklyhl jtt agl avfl ayjklttvrn agyocng agl blrhlha fjaaly vr agl hjfl sjd agja j rlcayvro wjhhlh agyocng j mjrbditohh gjdhajmx, jrb foha oi aglf fvhh.

Lklr soyhl, foha oi agl orlh agja gva agl lpjma mlyluyjt ajynla, gva agl syorn orl.

Ioy lpjfwtl, agl slvyb byljf juoca j tljb bocngrca or j fvtl-gvng njrayd, sgvmg vr agl yvnga fvrb soctb gjkl ullr agl mjajtdha ioy agl vrklravor oi ylwylhhlb- nyjkvajavorjt ltlmayvmvad nlrlyjavor (j mgljw jrb vrlpgjchavutl jrb aoajttd ror-wottcavrn ioyf oi wosly sgvmg agl soytb vr zclhavor gjb ullr hllxvrn ioy mlracyvlh, jrb ioy agl tjmx oi sgvmg va sjh wtcrnlb vrao j alyyvutl jrb wovratlhh sjy) sjh vr ijma gjb ud j hfjtt jrb ulsvtblylb bcmx.

Ud jroagly hayoxl oi ujb tcmx, agl hvnga oi j glyb oi svtb goyhlh njttowvrn agyocng j ivltb oi svtb gdjmvragh soctb gjkl tlb j haycnntvrn mofwohly ao syval agl ijfoch Itdvrn Nob Hcval, uyvrnvrn hcmmoy jrb ujtf ao agl hocth oi fvttvorh, gjb gl roa ullr ja gofl vr ulb svag hgvrntlh. Agl vrhwvyjavor aglylud iltt ao j rljyud iyon, sgo sjh roa vr fcmg oi j wohvavor ao fjxl j hajyatvrn morayvucavor ao agl ivltb oi aorl wolayd.

Fjrd mvkvtvqjavorh gjkl ylmonrvqlb agvh hgomxvrn sjhal jrb ayvlb kjyvoch flagobh ao wylklra va, foha oi aglf vrkotkvrn lreodjutl uca vttlnjt jaalfwah ao acrl agl fvrb vrao agl yvnga sjkltlrnag ud agl chl oi lpoavm glyujnl oy dljha wyobcmah. Va rlkly soyxh wyowlytd.

1. (2 points) Find the frequency of each alphabet character in this above cipher text. You may use the following tool to count:

   https://www.mtholyoke.edu/courses/quenell/s2003/ma139/js/count.html

   Now indicate the alphabet that has the highest frequency in the given cipher text.

2. (2 points) Write below the frequency of the alphabet that has the highest frequency in the given ciphertext. Your answer should be an integer.

3. (10 points) It is given that the alphabet J in the ciphertext is decrypted as the alphabet a in the plaintext. If the ciphertexts are given with capital letters, enter the corresponding plaintext alphabet.

A	B	C	D	E	F	G	H	I	J	K	L	M

N	O	P	Q	R	S	T	U	V	W	X	Y	Z

4. (6 points) Decrypt the given cipher text. Type very clearly the original plaintext. You should include all the commas, hyphens, periods, and paragraphs in your plain text.