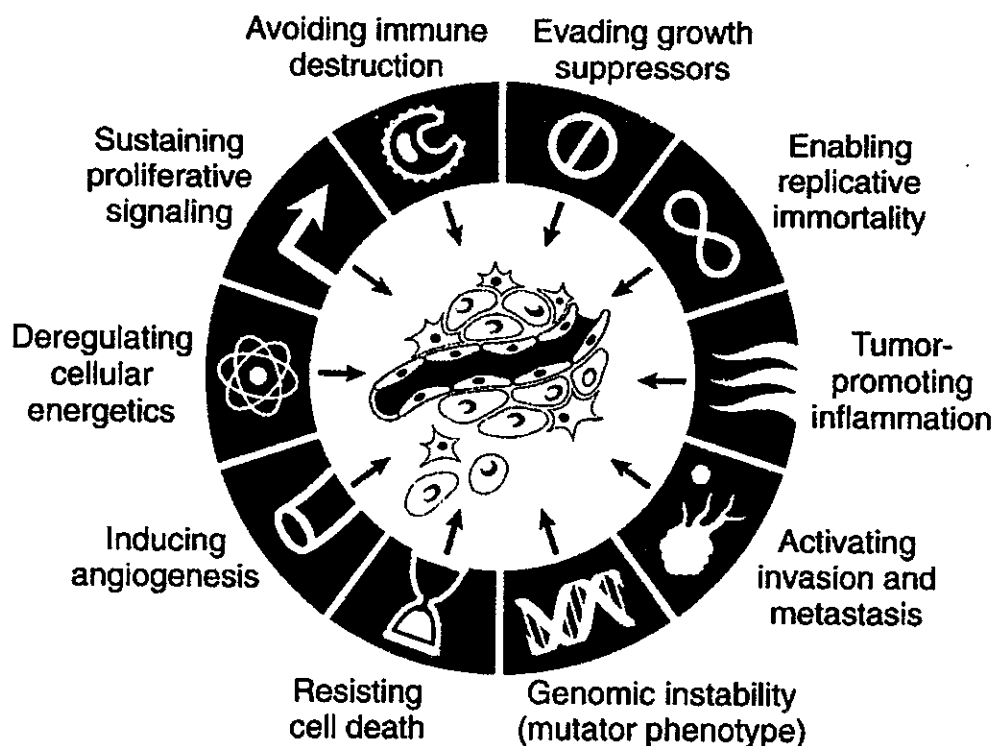


請在答案紙上標明題號作答。

1. Cell death in multicellular mammalian tissues could proceed through different forms by regulated programs. Please describe
 - (a) Various forms of cell death (defined by morphology and mechanism). (5 分)
 - (b) The cellular/molecular cascade underlying each cell death form, which is triggered by different cell insult. (20 分)
2.
 - (a) The most prevalent neurodegenerative disease that accounts for dementia in the aged people in the world is 2.(a) (disease name). (5 分)
 - (b) List any ONE of the reported mutant genes responsible for the disease you have stated in (a) and describe the pathogenesis/mechanism about how this specific gene leads to neurodegeneration and dementia. (10 分)
3. Explain the mechanism underlying mental health promotion by skeletal muscle training exercise. (10 分)
4. Please briefly describe the major differences between acute and chronic inflammation according to (10 分)
 - (a) the involved inflammatory cells
 - (b) histologic changes
 - (c) two examples each for acute and chronic inflammation.
5. 2011 the Hallmarks of Cancer (revised in 2022 now with 14 hallmarks):



- (a) Tumor cells can have self-sufficiency in growth by mutations in the proliferative pathways. Please give three examples. (10 分)
 - (b) Tumor cells being insensitivity to growth inhibition due to mutations in tumor suppressor genes: Please give two examples. (10 分)
 - (c) Tumor cells can evade immune destruction. Please give two examples. (10 分)
6. Oral and oropharyngeal squamous cell carcinomas are deadly diseases in Taiwan. Please describe major differences between HPV-positive and HPV-negative squamous cell carcinomas according to: (10 分)
 - (a) risk factors,
 - (b) histologic features,
 - (c) Is there any difference in prognosis between these two types of squamous cell carcinomas?