



قائمة الاسئلة

امتحان نهاية الفصل الدراسي الأول - للعام الجامعي 1446 هـ - الموافق -2025/2024م-كلية الطب والعلوم الصحية :: مادة (الجينات والتغذية)
د/ فيصل حسن حمود علي

- 1) Golden rice is a new version of GMF with beta-caroten gene to supply provitamin A
 - 1) True
 - 2) False
- 2) GMFs are foods whose genetic material (DNA) has been modified naturally
 - 1) True
 - 2) False
- 3) There is no benefit with regard to genetically modified (GM) foods
 - 1) True
 - 2) False
- 4) Genetic engineering can help produce more food and/or enhance quality to feed growing world population
 - 1) True
 - 2) False
- 5) Genetic variation between individuals results from numerous differences in nucleotide sequences within their genome
 - 1) True
 - 2) False
- 6) Only Safety of GM food is assessed before it is available in the market
 - 1) True
 - 2) False
- 7) There is no internationally agreed policy on labelling of GM food yet
 - 1) True
 - 2) False
- 8) 'Phenotype' is the external expression of a hereditary traits
 - 1) True
 - 2) False
- 9) Genetic variations are generally insufficient to cause a complex disease
 - 1) True
 - 2) False
- 10) Both the genotype and the environmental risk factor are necessary to increase risk of disease
 - 1) True
 - 2) False
- 11) 'Genotype' is all nucleotide sequences of human messenger RNA
 - 1) True
 - 2) False
- 12) DNA in foods are easily digested and there is no evidence that this DNA is going to have any effect on our DNA
 - 1) True
 - 2) False
- 13) Nutrigenomics simply study the dietary effects on
 - 1) genome stability
 - 2) epigenome alterations
 - 3) metabolome changes
 - 4) All the above is correct
- 14) Are foods made from genetically modified crops required to pass human testing?
 - 1) Yes
 - 2) No





- 15) As a result of genetically modified foods, pesticides use on farms has:
- 1) - Gone up dramatically
 - 2) + Gone down dramatically
 - 3) - No changed
 - 4) - Non the above
- 16) How long does it nearly take to develop a new genetically modified food?
- 1) - Twenty years
 - 2) + Thirteen years
 - 3) - One year
 - 4) - Half a year
- 17) Plant or crops with DNA (genes) have been altered in soil to enhance desirable traits
- 1) - True
 - 2) + False
- 18) The first seeds that was modified by genetic engineering was produced in:
- 1) + 1994
 - 2) - 1954
 - 3) - 1980
 - 4) - 1974
- 19) Most foods derived from genetically modified crops contain:
- 1) - The same number of genes as food produced from conventional crops
 - 2) - Hundreds of additional genes
 - 3) + One or two additional genes
 - 4) - One gene
- 20) Some plants are made resistant to pests by using a gene from
- 1) - virus
 - 2) - soybean
 - 3) - cotton
 - 4) + bacteria
- 21) The sensing mechanisms in liver is regulating by
- 1) + PPARs
 - 2) - FFA
 - 3) - TG
 - 4) - all the above
- 22) A genetic polymorphism is:
- 1) - Genetic mutation between humans
 - 2) - Genetic variations between humans
 - 3) - Genetic differences between humans
 - 4) + All of these
- 23) The following properties of GMF are assessing before it is available in the market Except
- 1) - Safety /toxicity
 - 2) - Allergenicity
 - 3) - Nutritional composition
 - 4) + Human trials
- 24) One food is Not among the top 10 genetically modified foods
- 1) + nuts
 - 2) - peas
 - 3) - tomatoes
 - 4) - corn
- 25) The better indicator of GMF safety during risk assessment is





- 1) - Allergic reaction test
 - 2) Study of nutritional composition
 - 3) - Toxicity test
 - 4) - All the above
- 26) What are the current benefits of having foods made from genetically modified crops?
- 1) - create foods that are more nutritious
 - 2) - have longer shelf lives
 - 3) - resistance to pests and infections
 - 4) All the above
- 27) Nutrigenetics and nutrigenomics can be useful for better understanding of
- 1) - Development of personalized nutrition
 - 2) - Nutrient-gene interactions
 - 3) - Strategies for optimal health and disease prevention
 - 4) All the above
- 28) Role of Dietitians in nutritional genomics is
- 1) - Transfer of Nutritional Genetic knowledge to the community
 - 2) - Transfer of Nutritional Genetic knowledge to the patients
 - 3) - Personalization of nutrition according to genetic analysis
 - 4) All the above
- 29) Human disease is complex; result from complex interactions between
- 1) - Physical and chemical factors
 - 2) - Physical and nutritional factors
 - 3) Environmental and genetic factors
 - 4) - Environmental and biological factors
- 30) Select the incorrect statement in "Personalized diet"
- 1) - A diet prepared to an individual based upon her/his genotype
 - 2) - Precision nutrition to prevent diet-related chronic diseases
 - 3) - MNT based upon his/her genetic analysis
 - 4) Its regular diet without any modifications
- 31) Administering hydroxyurea and butyrate intervention to sickle cell disease patients stimulate
- 1) Fetal hemoglobin expression
 - 2) - Adult hemoglobin A expression
 - 3) - Sickle hemoglobin expression
 - 4) - Non the above
- 32) Both the genotype and the environmental risk factor have
- 1) independent effects on Epilepsy
 - 2) - dependent effects on Epilepsy
 - 3) - no effect on Epilepsy
 - 4) - direct effect on Epilepsy
- 33) The effect of exposure to an environmental factor on disease risk depends on
- 1) Genotype
 - 2) - Phenotype
 - 3) - An environmental factor
 - 4) - Measurable traits
- 34) What factor is among environmental risk factors of cardiovascular diseases?
- 1) - Hypertension
 - 2) Diet
 - 3) - Atherosclerosis
 - 4) - Genetic predisposition





- 35) What factor is among internal risk factors of cardiovascular diseases?
- 1) Genetic polymorphism
 - 2) Smoking
 - 3) Diet
 - 4) Stress
- 36) One condition is often not categorized under cardiovascular diseases phenotypes
- 1) Atherosclerosis
 - 2) Peripheral Vascular Disease
 - 3) Myocardial Infarction
 - 4) Ischemic Stroke
- 37) Early characterizing gene-environment interactions may help in
- 1) Providing more effective prevention
 - 2) Providing more effective management strategies
 - 3) Better adherence to healthful diet
 - 4) All of these
- 38) Nutrigenomics aims to influence all the following condition Except
- 1) Reveal why and how people respond differently to the same nutrient (or drugs)
 - 2) Identify how the genetic makeup of a particular individual affects his or her response to education
 - 3) Understand how nutrition influences homeostasis
 - 4) Understand the mechanisms that underlie these genetic predispositions
- 39) What condition is associated with change in APOE gene mutation?
- 1) Neural tube defect
 - 2) Cancer
 - 3) Cystic fibrosis
 - 4) Elevated lipids levels
- 40) What condition is associated with change in ACE gene mutation?
- 1) Phenyl Ketonuria
 - 2) Inflammation
 - 3) Cancer
 - 4) Blood pressure
- 41) Which of the following diseases is not a complex disease?
- 1) Familial hypercholesterolemia
 - 2) Ischemic stroke
 - 3) Type 1 diabetes mellitus
 - 4) Asthma
- 42) Which of the following diseases is not a monogenetic disease?
- 1) Porphria variegeta
 - 2) Cystic fibrosis
 - 3) G6PD deficiency
 - 4) Alzheimer
- 43) What condition is not associated with change in MTHFR C677T gene mutation?
- 1) Neural tube defect
 - 2) Elevated homocysteine levels
 - 3) methylation pathway
 - 4) Sickle cell anemia
- 44) Changes in protein expression in response to ingested nutrients are called
- 1) dietary signal or agonist
 - 2) dietary signature





- 3) - dietary sensor
4) - All the above
- 45) When vitamin D (1,25(OH)₂D₃) binds with its nuclear receptor (VDR) is called
- 1) - dietary signal or agonist
2) - dietary signature
3) dietary sensor
4) - All the above
- 46) Activation of vitamin D by PTH action and binding with its intestinal receptor leads to gene expression activation of
- 1) - vitamin D receptor
2) - calcium intestinal transporter
3) - phosphorus intestinal transporter
4) calcium and phosphorus intestinal transporter
- 47) The best classical example for nutrient-gene interactions is
- 1) - Obesity
2) - Skin cancer
3) G6PD deficiency
4) - Blood pressure
- 48) Dietary signature is determined by the following process Except
- 1) - gene expression
2) - protein expression
3) - metabolite profile
4) Polyphenols profile
- 49) A very simple example of Nutrigenomics is the effect of which monosaccharide on gene expression
- 1) - Fructose
2) Glucose
3) - Galactose
4) - Ribose
- 50) All the genes used to modify crops are derived from microorganisms.
- 1) True
2) - False

