Genetics & Molecular biology – Final Exam 32 out of 60 Q – 1/8/2013 - Done by Ibrahim sabri
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Q1:Chromosomal abnormalities are found in the following diseases except:

A.Turner syndrome

B.Acute Lymphocytic lymphoma

C.Angelman syndrome

D.Color blindness

E.Patau syndrome

Q2:Cyclin protiens are given this name because they :

A.They cycle between activation and inhibition

B. They cycle between expression and degradation

C. They cycle between free form and CdK-bound

D.They cycle between nucleus and cytoplasm

E. They cycle between the different phases of the cell cycle

*** Hadool el as2elh bdha fhem*********

Q3: rasmih 3n el probe men

Q4: rasmih 3n SNPs (4 SNPs were analyzed for the association with a disease, what is true about data)

A.All SNPs are associated with the disease

B. ……..

Q5:Above an efficient annealing temperature to amplify a DNA segment, there will be a problem, it is:

A.The DNA polymerase loses its activity

B.The primer cant hybridize to the DNA

C.The DNA template can't be denatured

D.The Nucleotides become unstable

E.The DNA template is degraded easily

Q6:All the following are caused by nondisjunctional phenomenon except:

A.Klinfelter's syndrome

B.Retinoblastoma

C.Down's syndrome

D.Patau's syndrome

E.Edward's syndrome

Q7:Which of the following is not a chromosome instability disorder:

A.Xeroderma pigmentosum

B.DiGeorge Syndrome

C.Ataxia telangiectasia

D.Fanconi anemia

E.Bloom syndrome

Q8:Which of the following techniques is of no value in diagnosis of neural tube defects:

A.Amniocentesis

B.Chorion villus sampling

C.Maternal serum screening

D.Ultrasonography

E.Alpha phetoprotien in amniotic fluid

Q9:Which of the following is the most common mode of inheriting a disorder : (Not sure if the Q was like this)

A.Chromosomal Abnormality

B. Autosomal dominant

C.Autosomal recessive

D.Multifactorial

E.X-Linked recessive

Q10:Karyotype can be obtained from all the following except:

A.Sperm

B.Periphral blood bone marrow

C.Fibroblast from skin biobsy

D.Epithelial cells from (el 5ayar kan hik)

E.Solid tumor biobsy

Q11:Which of the following is not a member of organic acidemia:

A.Methyl malonic Acidemia.

B.Propionic Acidemia.

C.Metachromatic leukodystrophy

D.Multiple carboxylase deficiency.

E.Ketothiolase deficiency .

Q12:Which of the following is not true about Foundations of Heredity Science –Mendellian-:

A.Variable traits are inherited

B.*Gene* – trait-specific unit of heredity

C.Alternative versions of a gene (*alleles*) determine the trait

D.dependent assortment

E.Each parent *transmits* an allele to the offspring

Q13: Lysosomal storage diseases is a Single-Gene "Mendelian" Disorders caused by :

A. Structural proteins

B. Enzymes and inhibitors

C. Receptors

D. Cell growth regulation E. Transporters

Q14:Trait is:

A.a structure, function, or attribute determined by a gene or group of genes

B.the alternate forms of the character

C.the physical description of the character in an individual organism

D.the genetic constitution of the organism

Q15:Which of the following is not true about Mitochondrial inheritance:

A.Matrilineal mode of inheritance: only mother passes mitochondrial DNA

B.Higher spontaneous mutations than nuclear DNA

C.Defects both male and female, but transmitted only through female

D.Differences of phenotypic severity is due to homoplasmy

E.Disorder involving mitochondrial DNA shows autosomal dominant pattern of inheritance

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Q16:What is the most probable mode of inheritance in this pedigree:

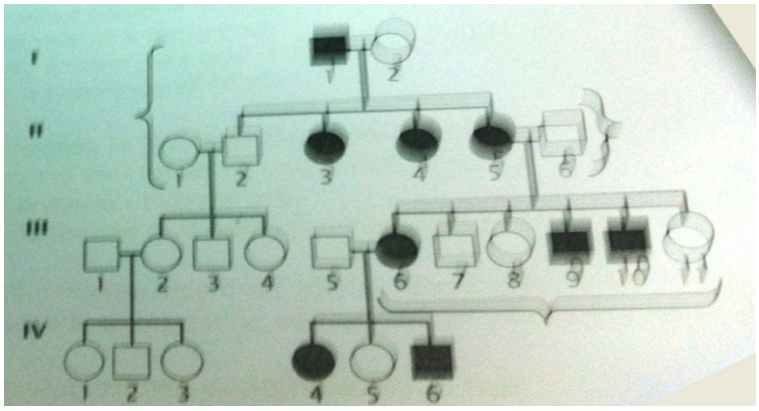
A.Autosomal dominant

B.Autosomal recessive

C.X-linked dominant

D.X.linked recessive

E.Y-linked



Q17:Mutation disorder with several symptoms refers to:

A. pleiotropy

B.Genetic heterogeneity

C.Variable expression

D.Germline mosaicism

E.Reduced penetrance

Q18:Which of the following about X-linked Recessive Disorders is not true:

A.Affects hemizygous males and homozygous females.

B.Expressed phenotype much more common in males

C.Affected males get the mutant allele from their mothers

D.Typically associated with miscarriage or lethality in males.

E.Daughters of affected males are usually heterozygous – thus unaffected

Q19:Family Pedigree usually summarize the family history of the patient, in order to obtain a pedigree which of the following question is not important:

A.Ask whether relatives have a similar problem
B.Ask if there were siblings who have died
C.Inquire about miscarriages, neonatal deaths
D.Ask severity of the disease in the index formula
E.Ask about consanguinity

Q20:Diabetes mellitus follow:

A.Autosomal dominat
B.Autosmoal recessive
C.X-linked
D.mitocondrial
E.Multifactorial

Q21:Polyploidy Refers to:

A.Extra copies of a gene adjacent to each other in a chromosome
B.An individual with complete extra set of a chromosome
C.A chromosome which has replicated but not inherited
D.Multible ribosomes present on a single mRNA
E.An inversion which does not include the centromere

Q22:The stage of meiosis in which chromosome pair and cross-over:

A.Prophase |
B.Metaphase |
C.Prophase ||
D.Metaphase ||
E.Anaphase ||

Q23:Which of the following shows codominance is true:

A.Has both alleles independently expressed in heterozygote
B.Has one allele dominant to the other
C.Has alleles tightly linked on the same chromosome
D.Has alleles expressed at the same time in the development
E.Has alleles that are recessive to each other

Q24:Which of the following is not true about telomerase:

A.Seal chromosome and retain chromosome integrity
B.Mantained by enzyme – telomerase
C.Reduction in telomerase and decrease in number repeats important in ageing and death
D.Telomere length became less than 1500 in base pairs after age of 65
E.Telomeres are made of repeating sequences of TTAGGG on both strands

Q25:Which of the following is not true about genetic drift: (Sorry ☺)

A.Fluctuation in the genetic frequincies ……

B.The differences between allele frequencies between population which…… contact between them

C.cut off one or more portions of a population causes a change in the frequency of alleles in a gene pool

D.Change in allele frequencies due to functional mutation

E.Any change in a sequence of DNA

Q26:Which of the following statement regarding polymorphism is wrong:

A. SNPs occur every 300-1000 bases in human genome

B. Non-coding SNPs can influence gene expression

C. there are 5.6 milliondifferences……. genome

D.SNPs can occur in both coding and non-coding regions of the genome

E.Non-synonymous: when single base substitutions do not cause a change in the resultant amino acid

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Q27:Which of the following is true about retinoblastoma :

A.Is associated with the loss of the short arm of chromosome 13

B.Is caused by mutation in growth suppressor gene

C.Is an autosomal dominant condition

D.Is inherited in the majority of unilateral cases

E.Is inherited in the majority of bilateral cases

Q28:The standard karyotype is perfomed by photomicrograph in which mitotic stage:

A.Intraphase

B.Prophase

C.Metaphase

D.Anaphase

Q29:Which female in the pedigree is carrier for the disease:

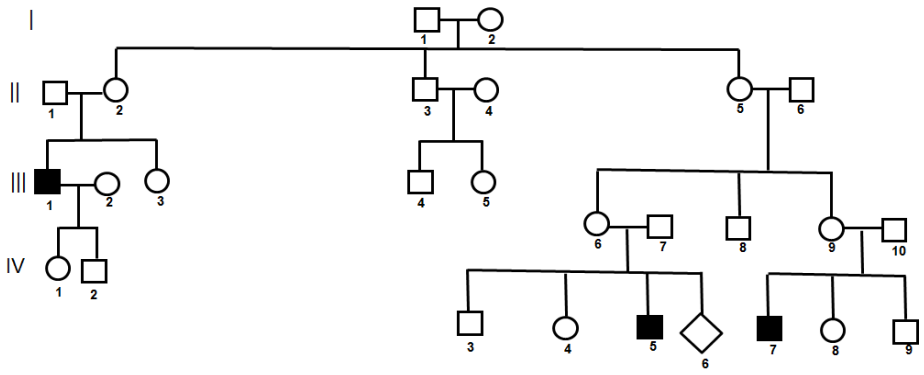
A.I-2,II-4,III-5

B.I-2,III-6,III-9

C.III-3,IV-1

D.II-5,III-3

E.II-2,III-6,III-9,IV-1



Q30:A non-selective new borne screening program should contain all the following except:

A.Minimal false positives

B.Minimal false negatives

C.Clearly defined disorder

D.well defined inheritance and pathogenesis

E.Advantage of early diagnosis

Q31:Which of the following combination is not true:

A.Primary ovary insufficiency/ Fragile mental retardation 1(FMR1)

B.Mitochondrial DNA/ largly associated with protiens

C.Osteogenesis imperfect/ mosaicism

D.Fragile X syndrome/ Hypermethylation of a CpG island

E.Uniparental disomy/ Absent of insulin in new born

Q32:Which of the following is not true regarding Urea Cycle Defects:

A.Main function to prevent accumulation of N_2 waste as urea

B.High ammonia, low BUN

C.Possible lactic acidosis

D.Presence of ketonuria

E.Normal to mild low glucose
