Exam 3 workbook

Vision Science II, Fall 2011

Lecture 27 to 39

Lecture 27
What is meant by the trichromatic theory of vision?
Principle of univariance
Monochromatic can achieve a metameric match with 2 hues.
Dichromatic metameric matching
Number of photopigments available above 550?
Number of wavelength hue needed for metameric matches

Lecture 28
Austin Roorda's research method
Terms hue, saturation, brightness
What is the Munsell color appearance system?
Normal spectral saturation function
Normal wavelength discrimination function
Bezold-Brucke

Lecture 29
What is meant by color opponent systems in color vision?
How the signal would be encoded based on a graph of the R-G and B-Y systems.
Differential diagnosis - hereditary versus acquired
Meaning of protan, deutan, tritan

Lab 8
CIE concepts
Using the CIE diagram

Lecture 30
What kind of color anomaly is most common?
Abnormal versus normal wavelength discrimination function.
Color confusion
Neutral points
Punnet squares and heredity of color vision anomalies
What is an achromatopsia?
Colro perception of a protanope

Lecture 31
Test vision monocularly and with eye to test first?
Kolner's Rule
Cyanopsia
SWAP
Red cap tests

Lecture 32 and Lab 9
Rules for color vision testing
Limitations of some PIP tests
HRR procedure and diagnosis
D-15 interpretation

Lecture 33
Anomaloscope questions

Lecture 34
What do the EOG, ERG and VER measure?
Which test is use for what condition?
Scotopci and photopic A and B waves
Multipfocal ERG
P-100 wave
What kind of target is use with the different tests?
Which uses which electrode?
Arden ratio

Lecture 35
Action potentials versus graded potentials
Spatial antagonism
Maximal response from ganglion cell - what kind of light pattern?
Ganglion cell types - on/off center, X or Y cell.
How many types of ganglioin cells are in the human retina?
Phototransduction
Many different kind of bipolar cells

Lecture 36
Parvo, magno - all cone functions
Basic Parvo versus magno functions

Lecture 37
Why does the FDT try to isolate magno?
How does it do so?
What is it a test of?
What does "frequency doubling" refer to?
Who is the father of modern psychophysics?

Leture 38
What is meant by the term, "psychophysics?"
Method of constant stimuli method and analsyis
Staircase procedure
Method of adjustment
Forced choice

Lecture 39
Probability of different errors, results with different criteria
Define lax versus strict criteria
How would detectibility affefct the plots?