Lab 3

1.

1. Storage Efficiency	2. Read Access Time
RAID 0 = 1000 GB	RAID 0 = 5000 Mb/s
RAID 1 = 100 GB	RAID 1 = 5000 Mb/s
RAID 3 = 1000 GB	RAID 3 = 6000 Mb/s
RAID 5 = 900 GB	RAID 5 = 4500 Mb/s
RAID 10 = 500 GB	RAID 10 = 5000 Mb/s
RAID 0 + 1 = 1000 GB	RAID 0 + 1 = 5000 Mb/s

2. RAID 4

a) It uses block level striping and uses minimum of 3 disks where 2 are for data and 1 is for parity.

It has good random reads as the data blocks are striped. But it has bad random writes as for every write it has to write to the single parity.

It is similar to RAID 3 and 5 and is not commonly used.

b) Yes

c) No

d) Not that long

RAID 5

a) Similar to RAID 4 but unlike it, RAID 5's parity information is distributed among the drives. Read performance is increased.

b) Yes

c) No

d) Fast

B Trees

c) B Tree Implementation Animation: http://imgur.com/a/Dgj51

B trees save time by using nodes with many branches compared with binary trees, in which each node can only have 1 children. B tree also allows a desired record to be located faster whereas Binary Trees usually begin at the start and keep on searching until they find the desired result.