

FIZIKA

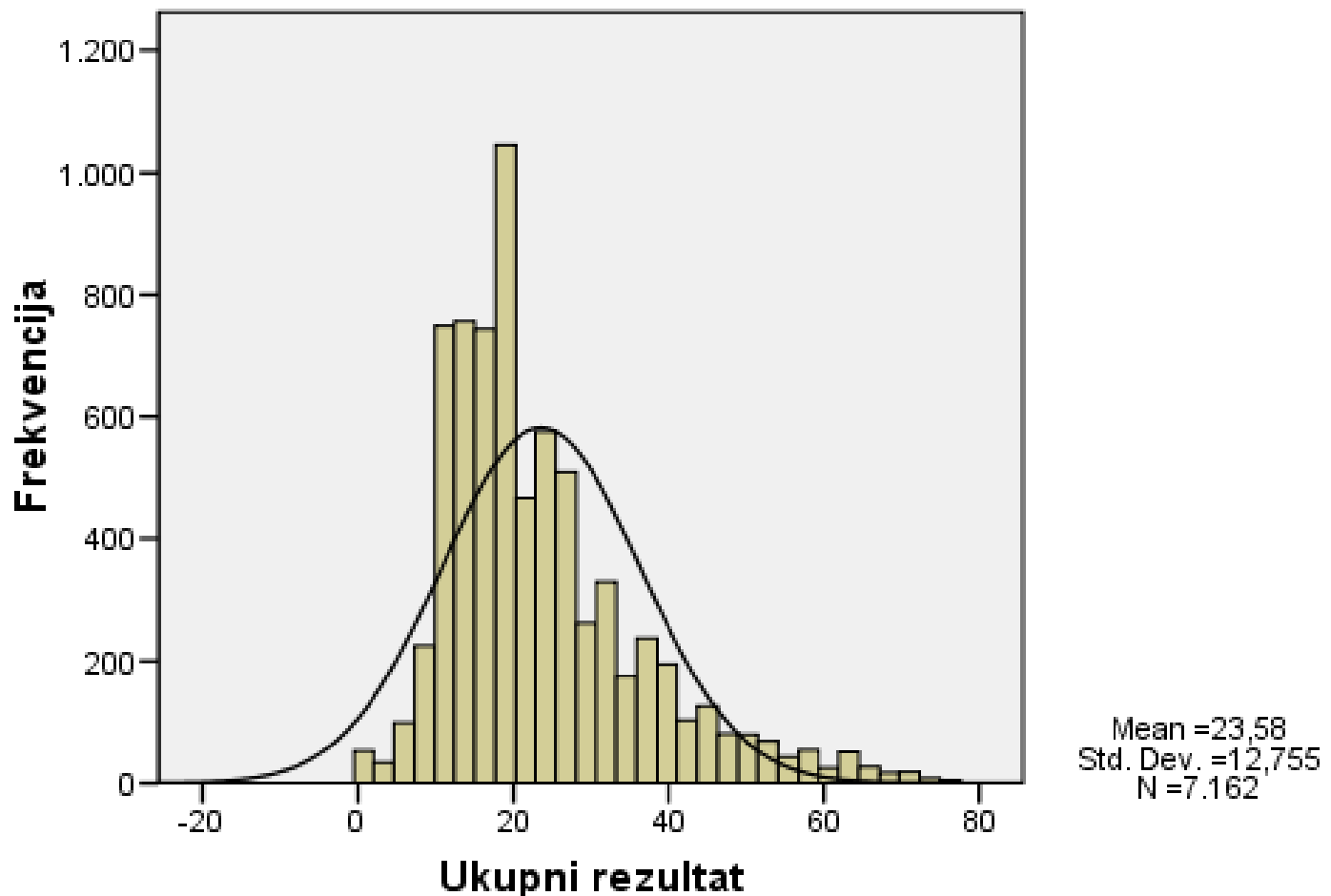
Rezultati probne državne mature

Deskriptivna statistika ukupnog rezultata

N		7162
k		40
M		23,6
St. pogreška mjerenja		4,76
Medijan		20
Mod		16
St. devijacija		12,76
Raspon		77
Minimum		0
Maksimum		77
Percentili	25	15
	50	20
	75	29
Cronbachov α		0,86

Deskriptivna statistika ukupnog rezultata

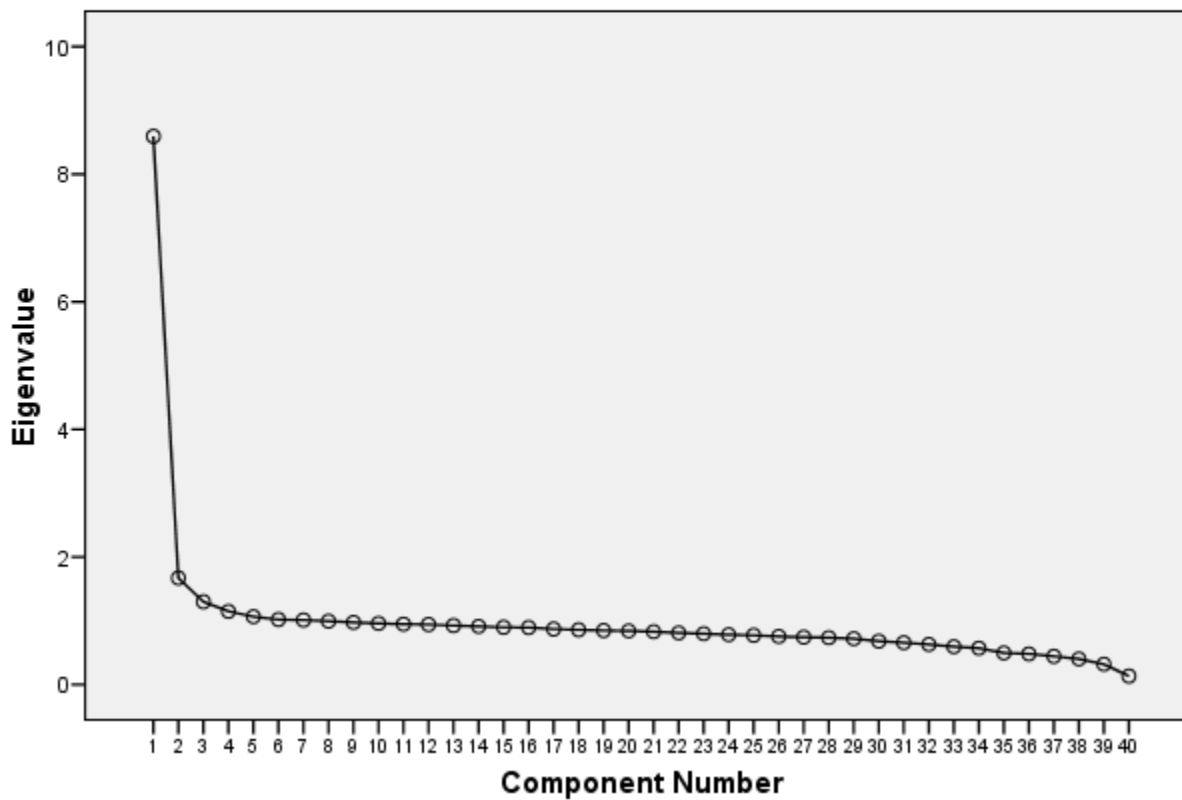
Histogram



Pragovi ocjena i postotak učenika koji su dobili pojedinu ocjenu

	1	2	3	4	5
Prag	-	14	24	37	50
%	18	43	25	10	5

Scree Plot



- 1 faktor, objašnjava 21,5% varijance

Distribucija zadataka s obzirom na njihovu težinu

Težina zadatka	Redni broj zadataka
Vrlo težak (0 – 0,2)	1, 2, 11, 19, 25, 26, 27, 30, 31.2, 32.1, 32.2, 33.1, 33.2, 34.1, 34.2, 35.2
Težak (0,21 – 0,4)	4, 5, 8, 9, 13, 18, 20, 28, 31.1, 35.1
Srednje težak (0,41 – 0,6)	3, 6, 7, 10, 12, 14, 17, 21, 22, 23, 29
Lagan (0,61 – 0,80)	15, 16, 24
Vrlo lagan (0,81 – 1)	

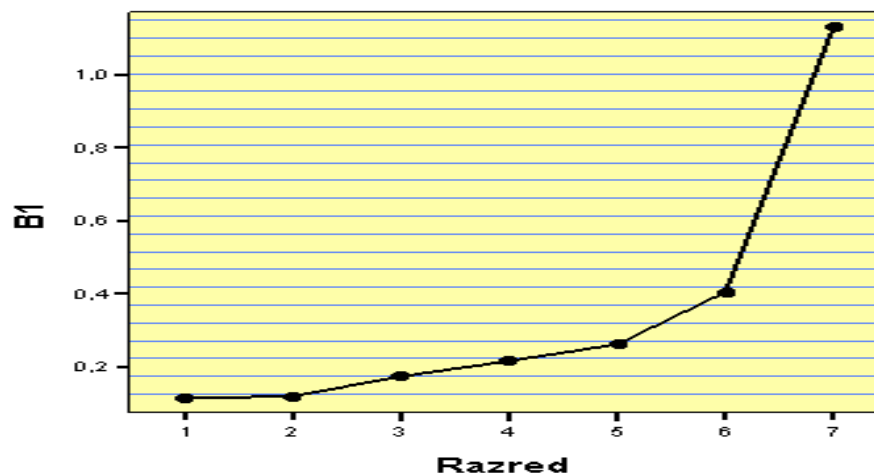
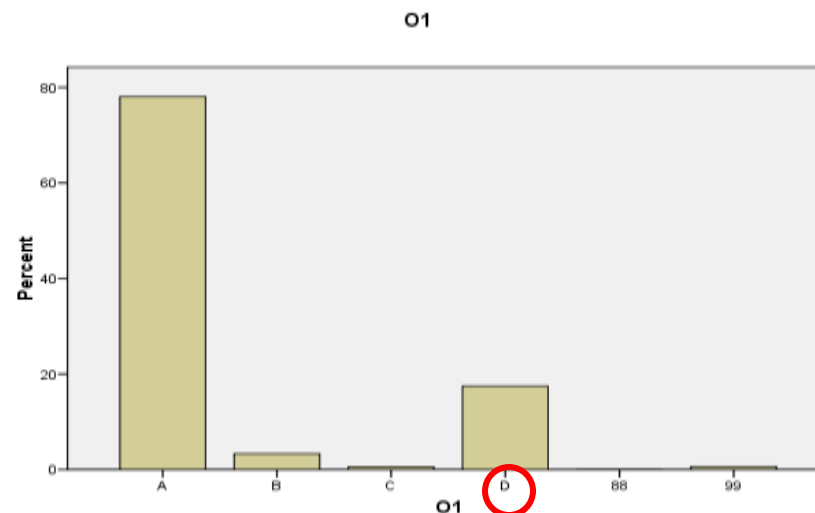
FIZIKA

1. dio

I. Zadatci višestrukoga izbora

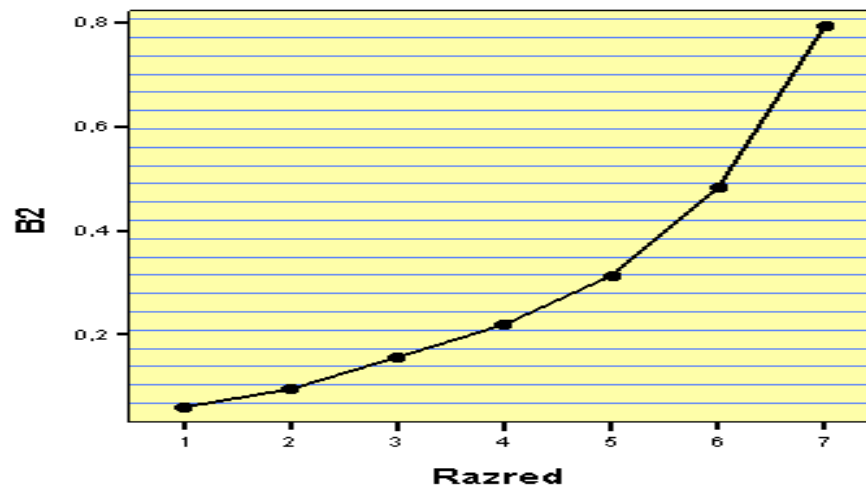
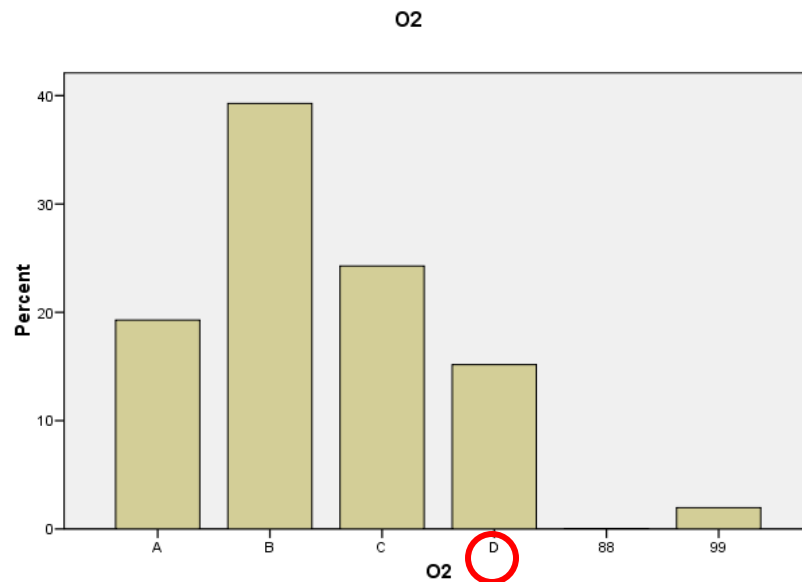
1. Autobus kreće sa stanice i jednoliko ubrzava po ravnoj cesti...

M	0,35 (0,17)
M (O)	0,4
ID	0,42



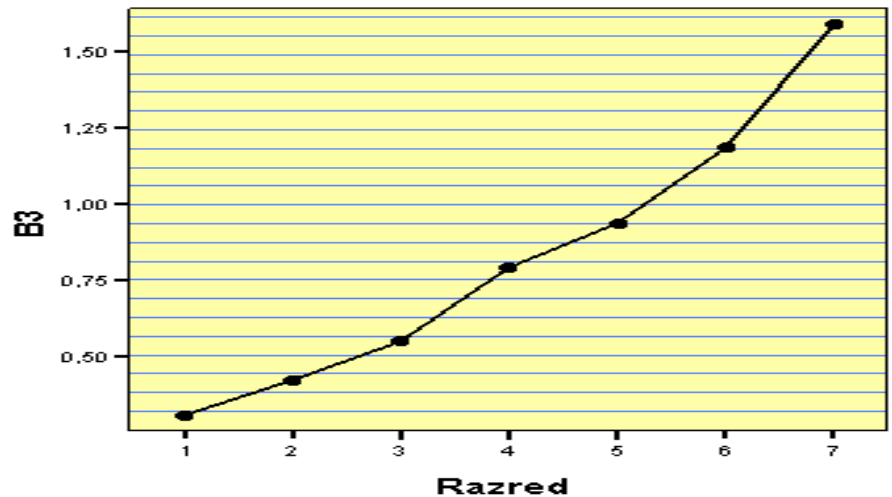
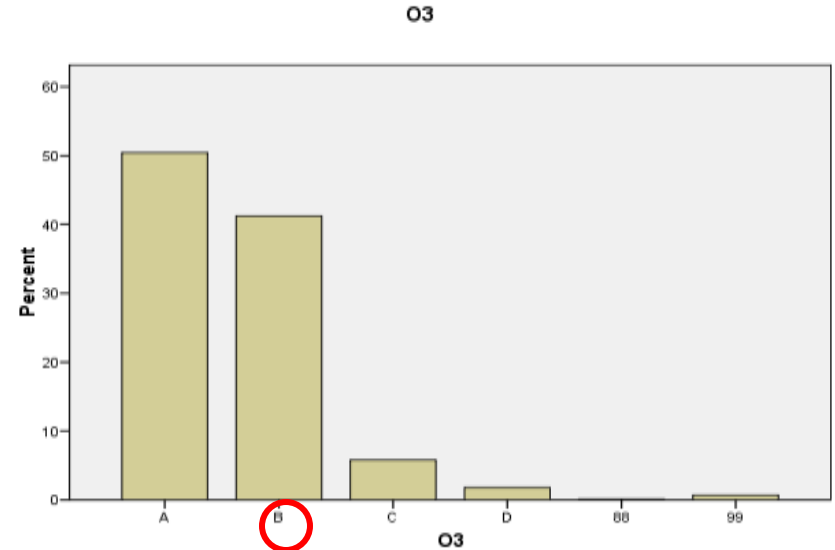
2. Srednja brzina tijela u vremenu od 8 sekundi iznosi:

M	0,30 (0,15)
M (O)	0,7
ID	0,30



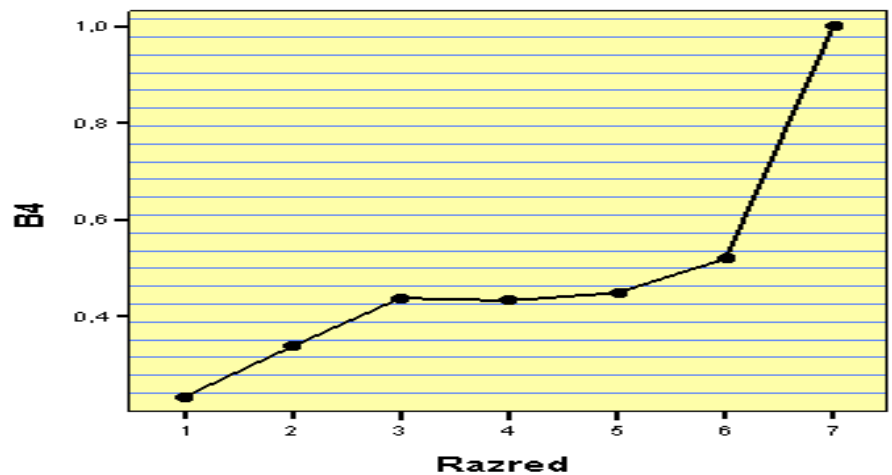
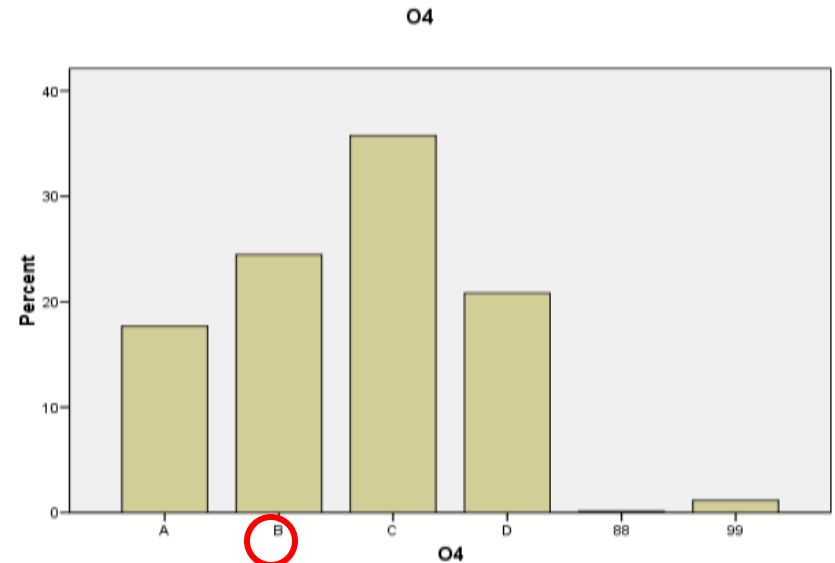
3. Tijelo se giba jednoliko po kružnici. Kakva je njegova brzina?

M	0,82 (0,41)
M (O)	0,8
ID	0,36



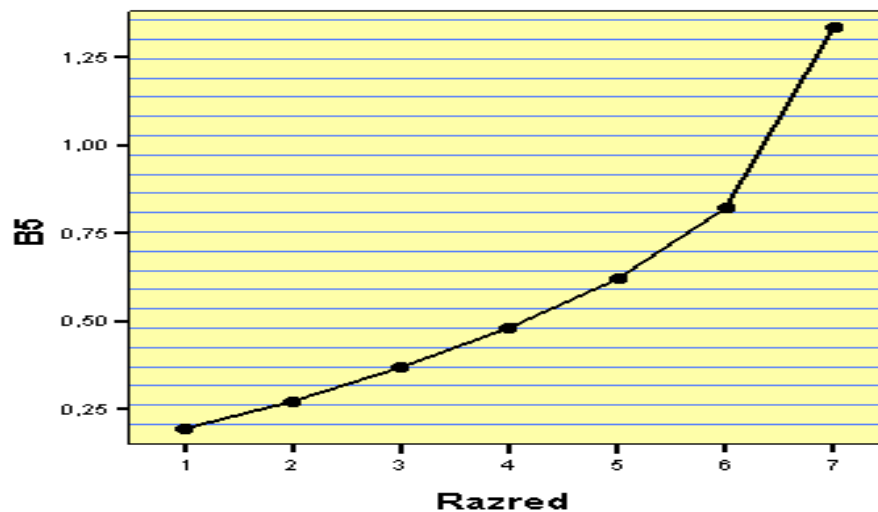
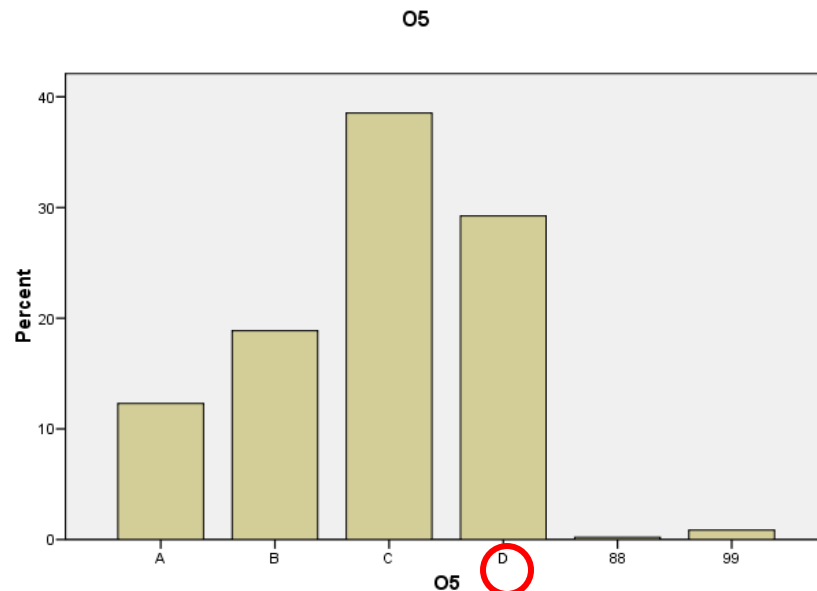
4. Tijelo je izbačeno horizontalno blizu površine zemlje...

M	0,49 (0,24)
M (O)	0,7
ID	0,23



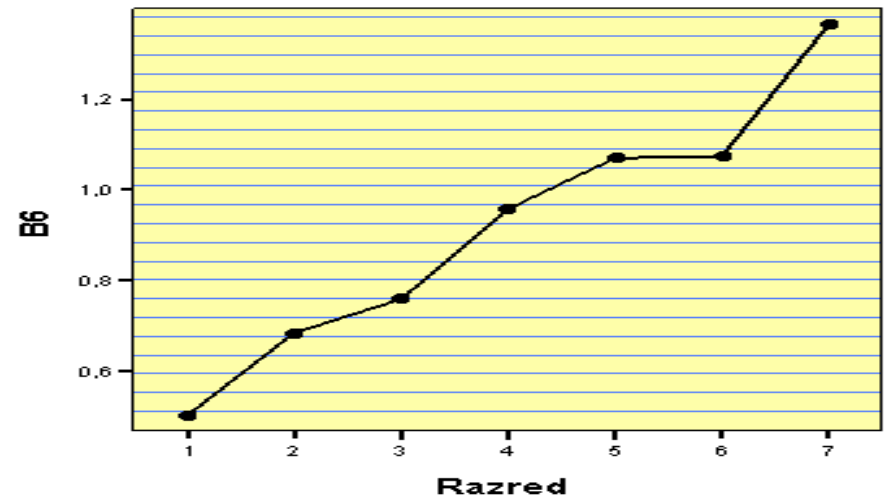
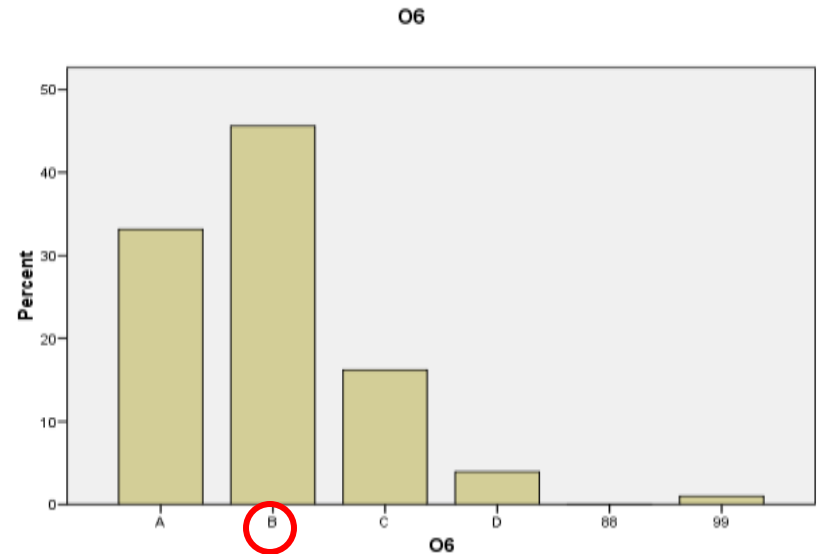
5. Dvoja se kolica gibaju ususret jedna drugima...

M	0,58 (0,29)
M (O)	0,6
ID	0,36



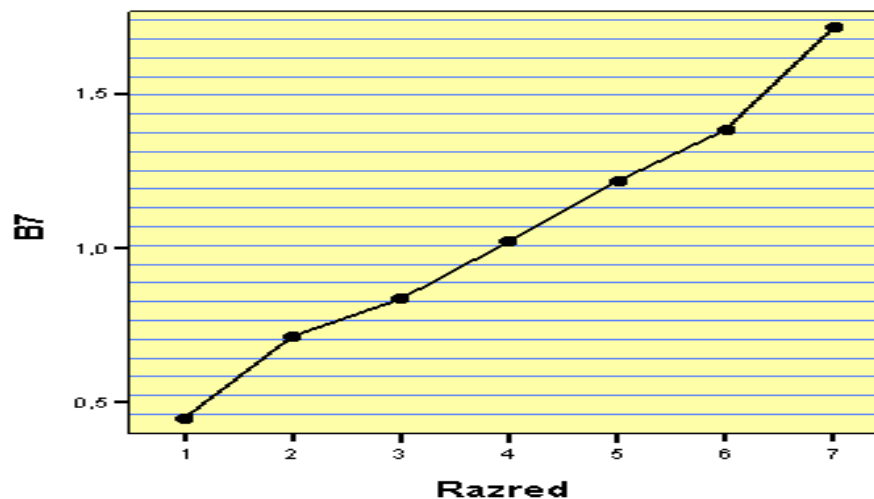
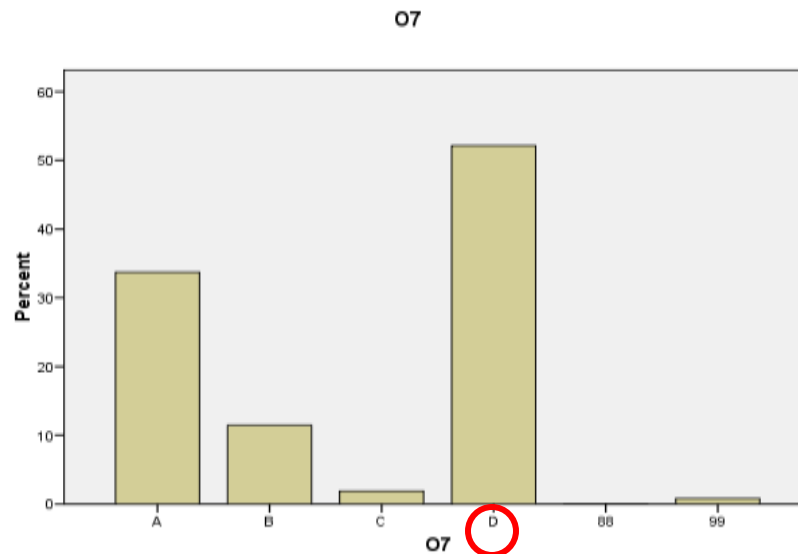
6. Učenci su izmjerili visinu nekoga predmeta pet puta i dobili ove vrijednosti...

M	0,91 (0,46)
M (O)	0,6
ID	0,20



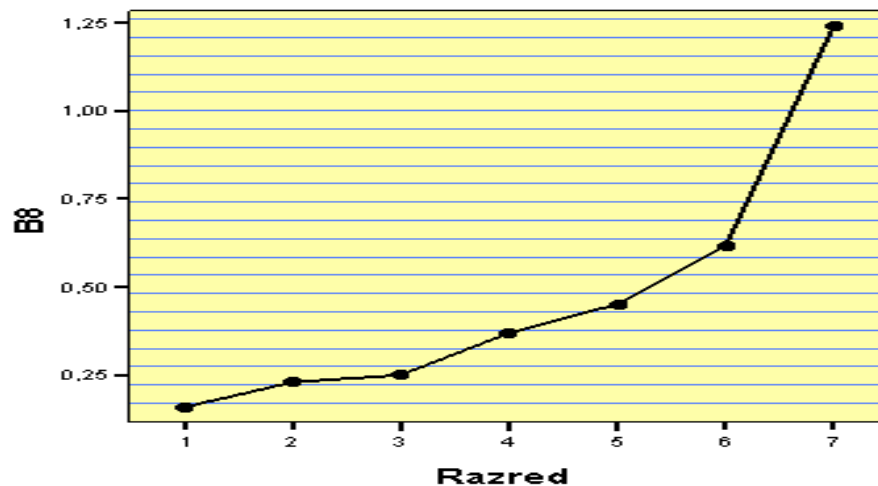
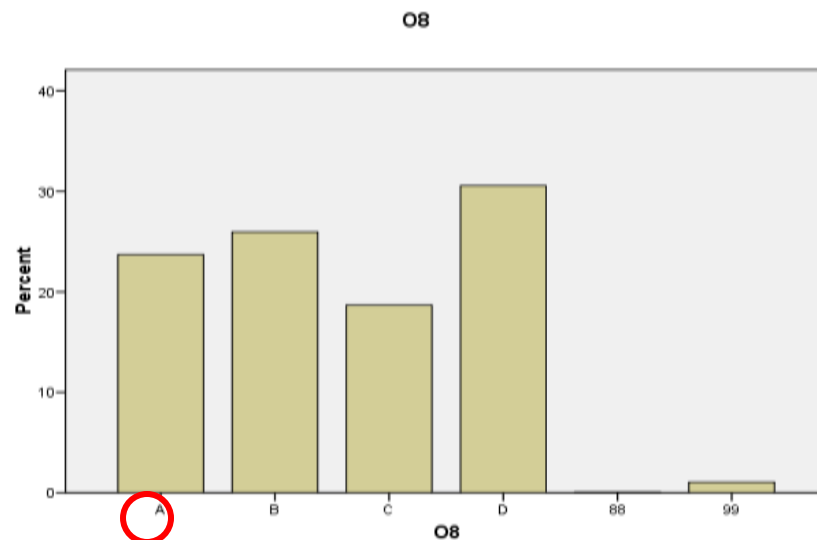
7. Knjiga mase 2 kg miruje na horizontalnom stolu. Koliki je iznos sile kojom stol djeluje na knjigu?

M	1,04 (0,52)
M (O)	0,9
ID	0,33



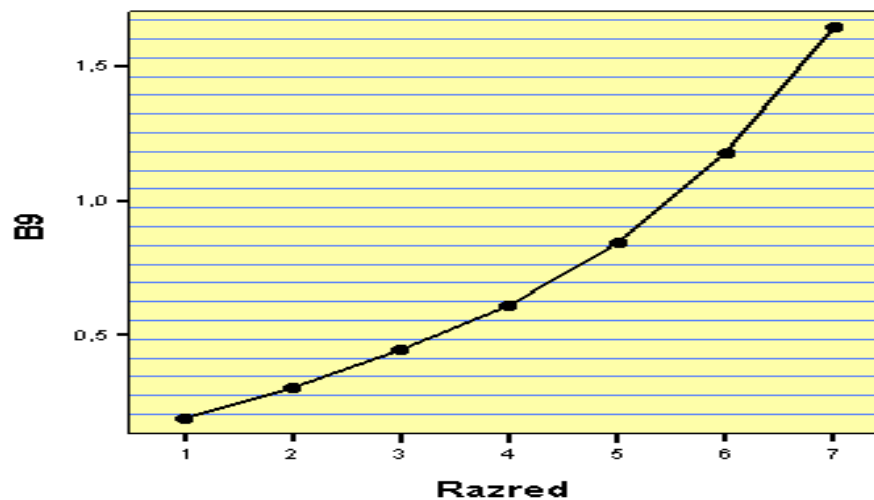
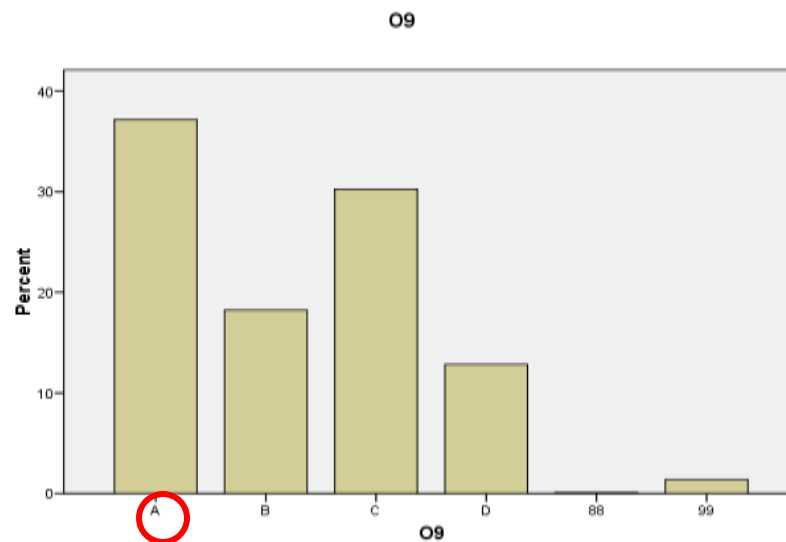
8. Tijela A i B privlače se gravitacijskom silom. Kad bi tijelo B imalo devet puta manju masu...

M	0,47 (0,24)
M (O)	0,6
ID	0,37



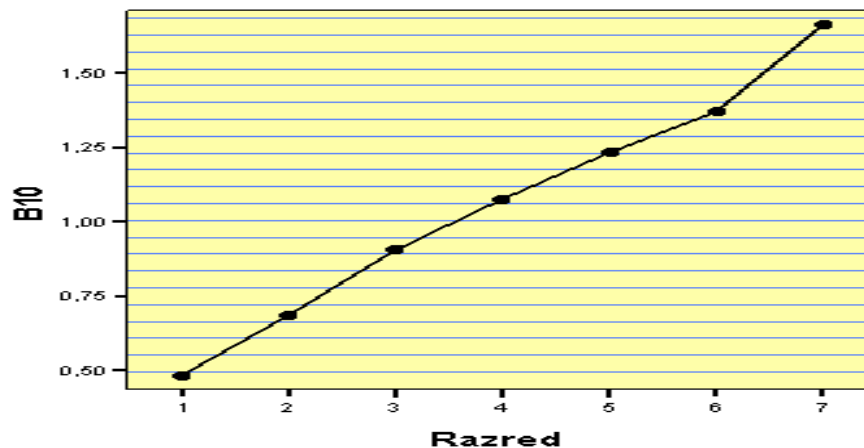
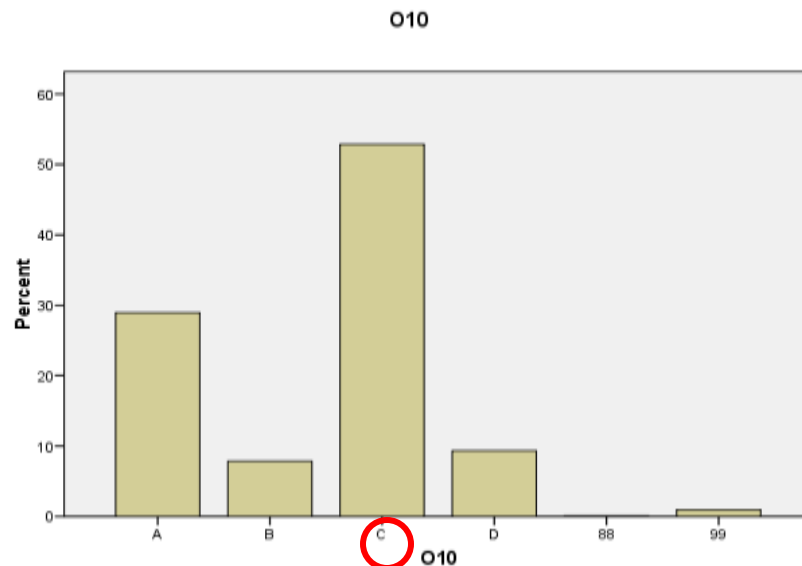
9. Koji od četiriju prikazanih dijagrama predstavlja izohorni proces?

M	0,74 (0,37)
M (O)	0,7
ID	0,45



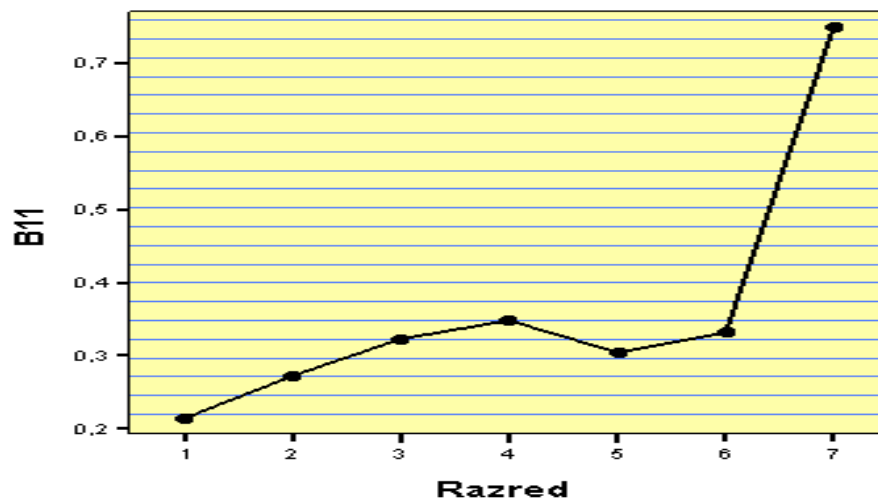
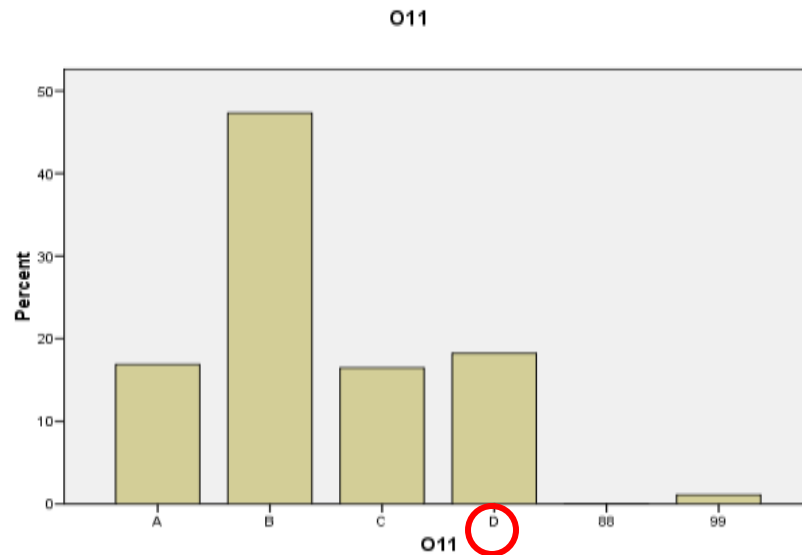
10. Temperatura neke količine idealnoga plina poveća se četiri puta pri čemu mu se volumen poveća dva puta. Tlak toga plina se pritom:

M	1,06 (0,53)
M (O)	0,7
ID	0,31



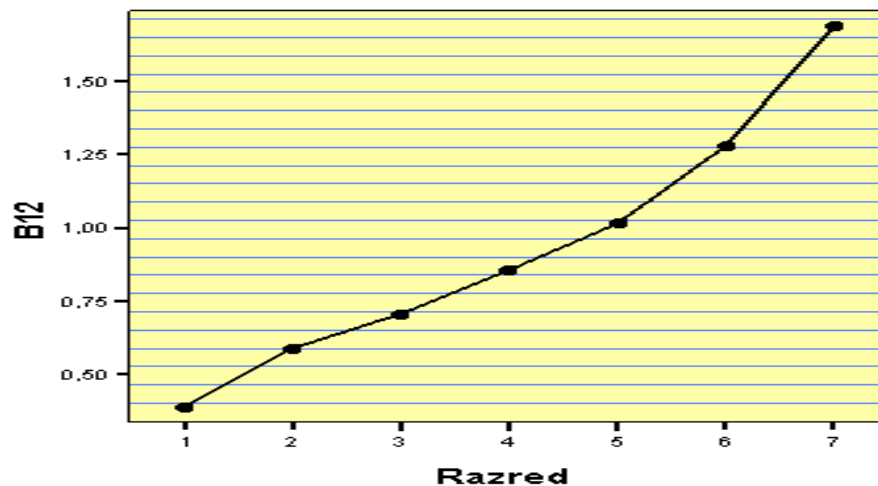
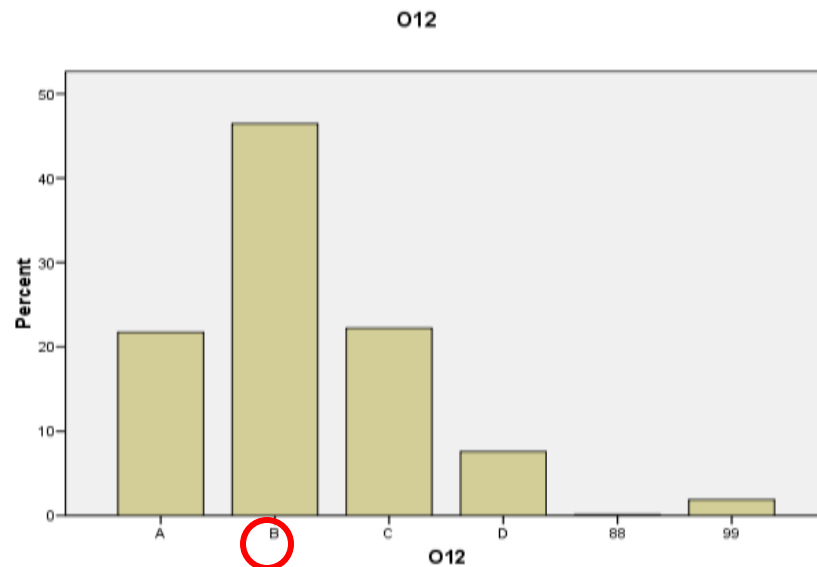
11. Plin je podvrgnut procesu promjene stanja pri kojem se ne obavlja rad. Koji je to proces?

M	0,36 (0,18)
M (O)	0,3
ID	0,18



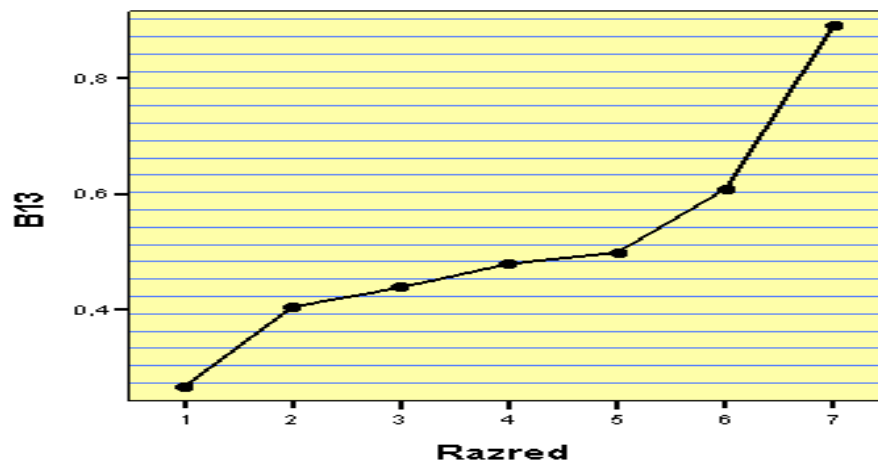
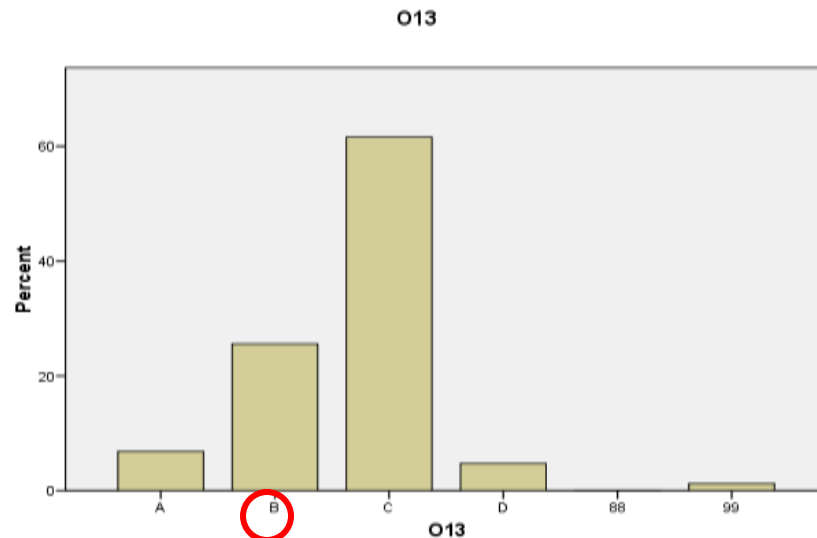
12. Čemu je od navedenoga proporcionalna temperatura idealnoga plina?

M	0,93 (0,46)
M (O)	0,4
ID	0,35



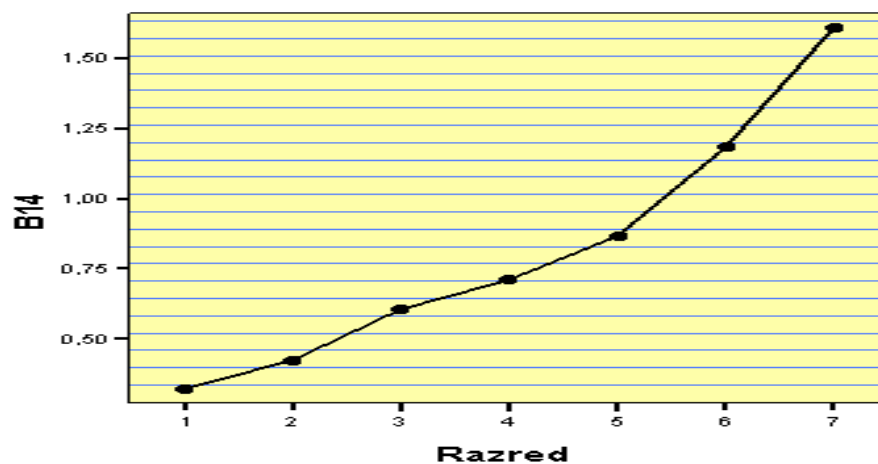
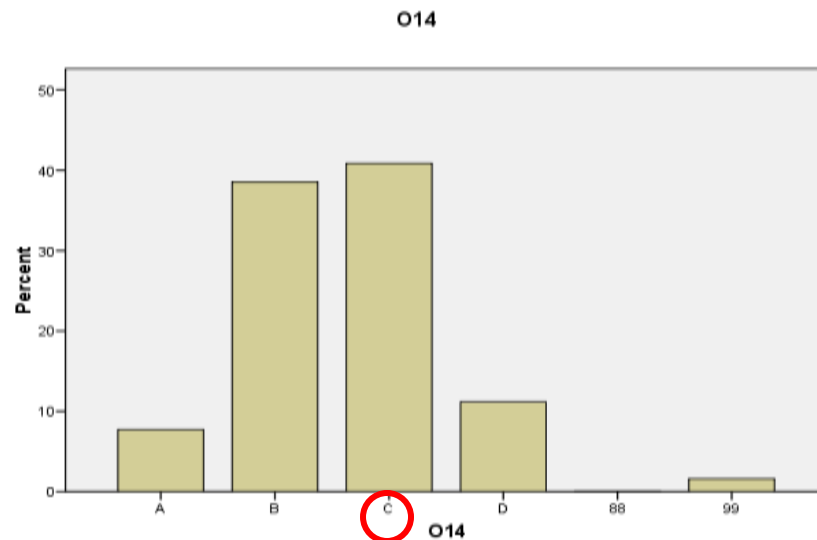
13. Toplinski stroj od toplijega spremnika primi 2 500 J topline, od čega hladnijem spremniku prenese 1 500 J topline...

M	0,51 (0,26)
M (O)	0,5
ID	0,16



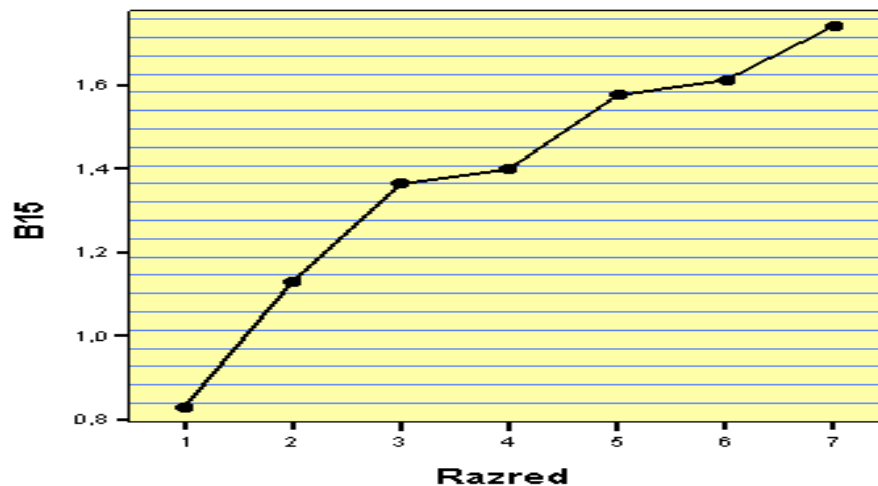
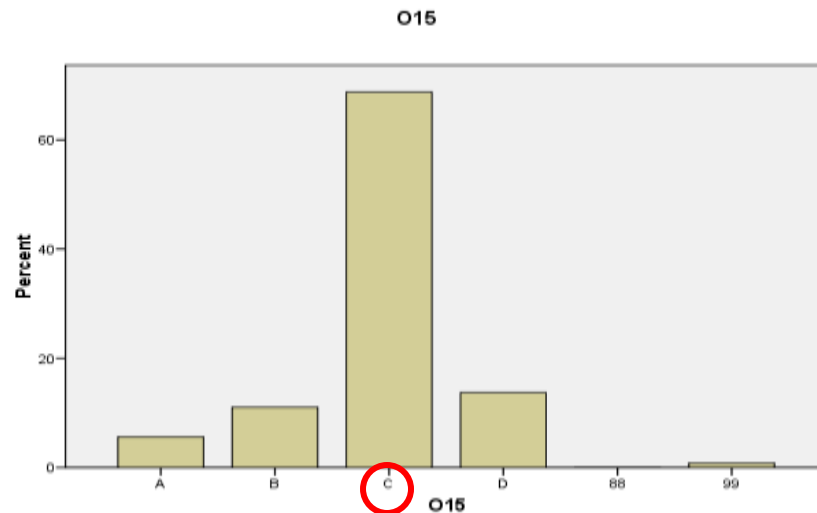
14. U homogenome električnome polju iznosa 100 N/C dvije točke, međusobno udaljene 20 cm , nalaze se na istoj silnici...

M	0,82 (0,41)
M (O)	0,6
ID	0,36



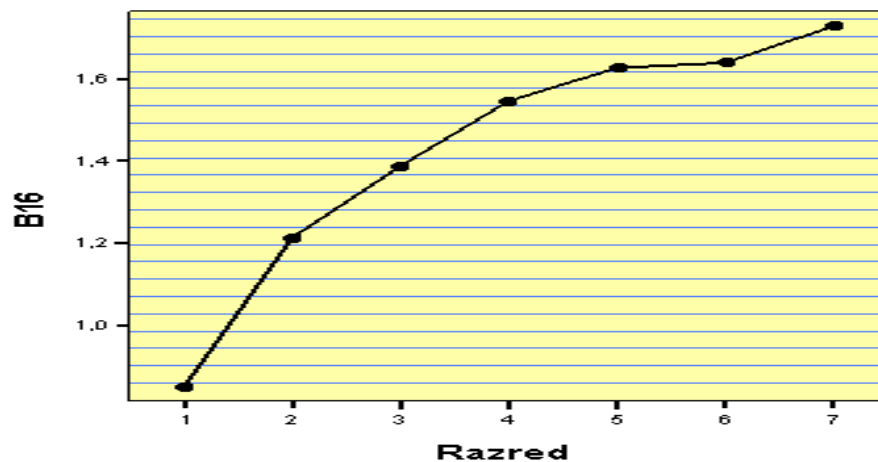
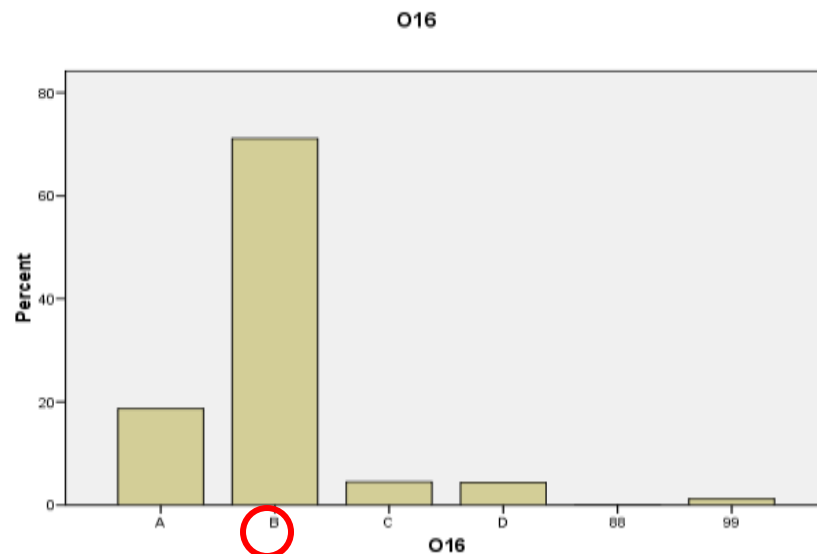
15. U strujnome krugu prikazanome na crtežu jedna je žaruljica pregorjela. Kao posljedica toga sve su žaruljice prestale svijetliti...

M	1,37 (0,69)
M (O)	0,6
ID	0,22



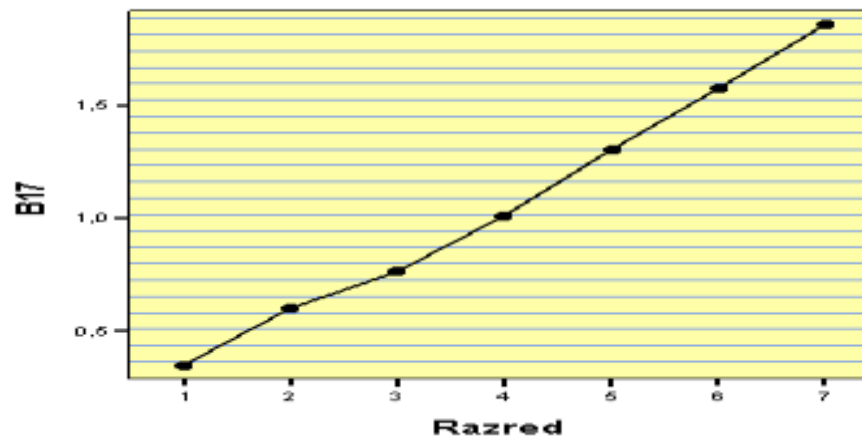
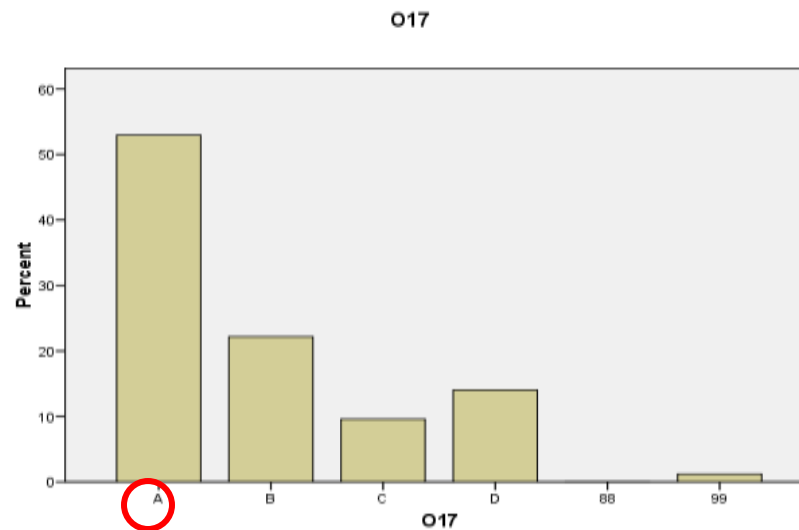
16. Dva su otpornika serijski spojena na izvor napona 9 V, kao što je prikazano na crtežu. Ako je na krajevima otpornika...

M	1,42 (0,71)
M (O)	0,8
ID	0,20



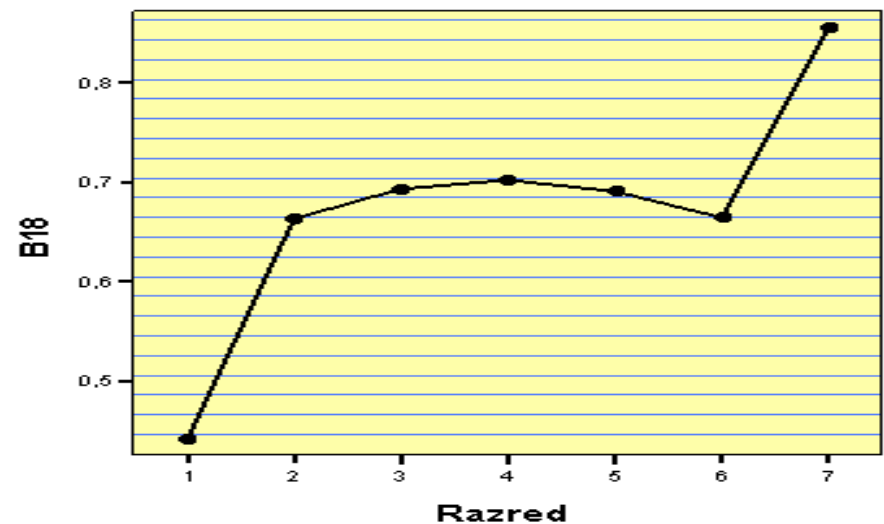
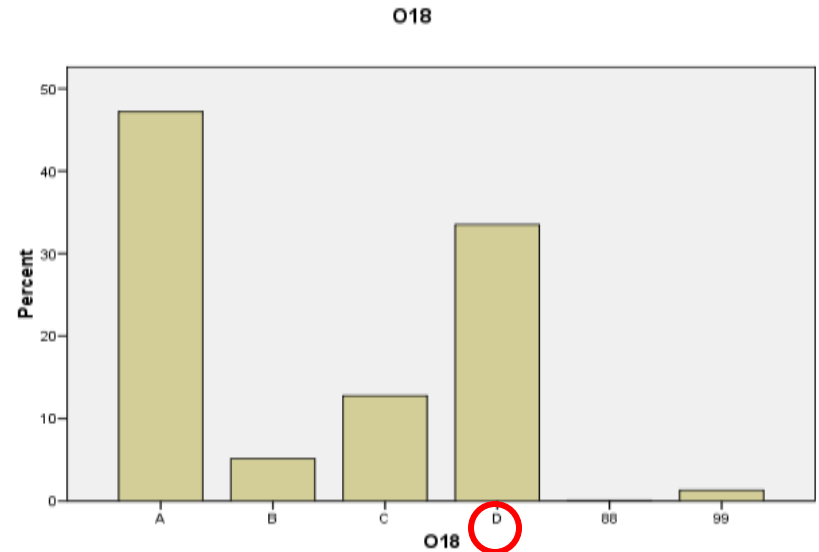
17. Između ploča ravnoga kondenzatora nalazi se zrak ($\epsilon_r=1$). Što će se dogoditi s kapacitetom kondenzatora ako između njegovih ploča stavimo staklo ($\epsilon_r=6$)?

M	1,06 (0,53)
M (O)	0,4
ID	0,42



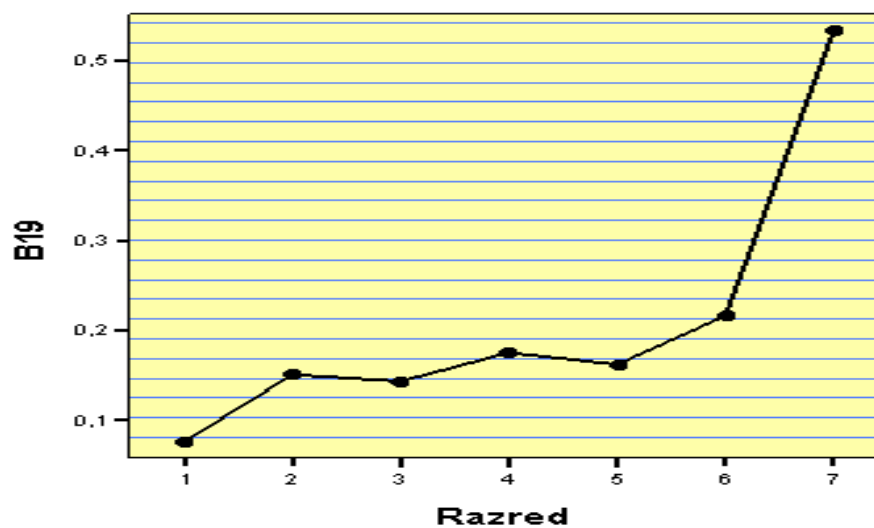
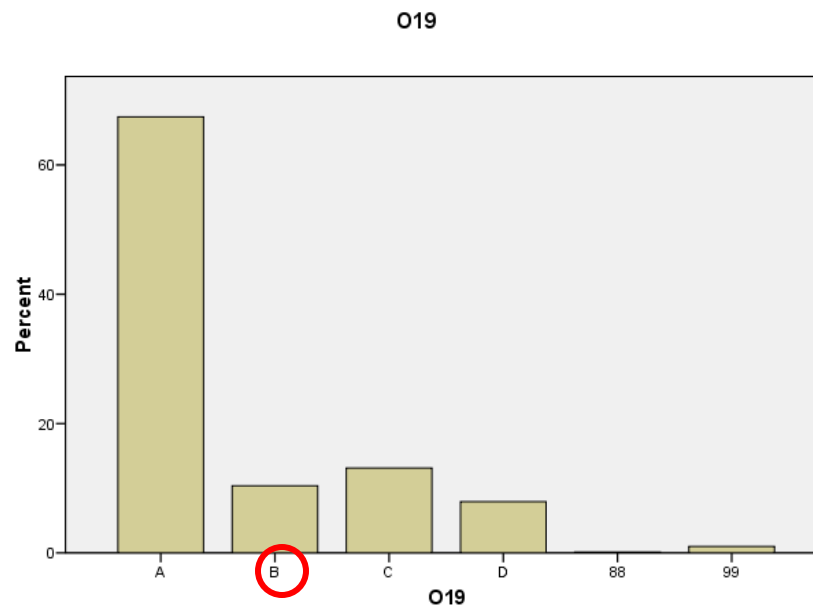
18. Kroz dva paralelna vodiča teku jednake struje u suprotnim smjerovima. Svaka pojedina struja

M	0,67 (0,33)
M (O)	0,3
ID	0,05



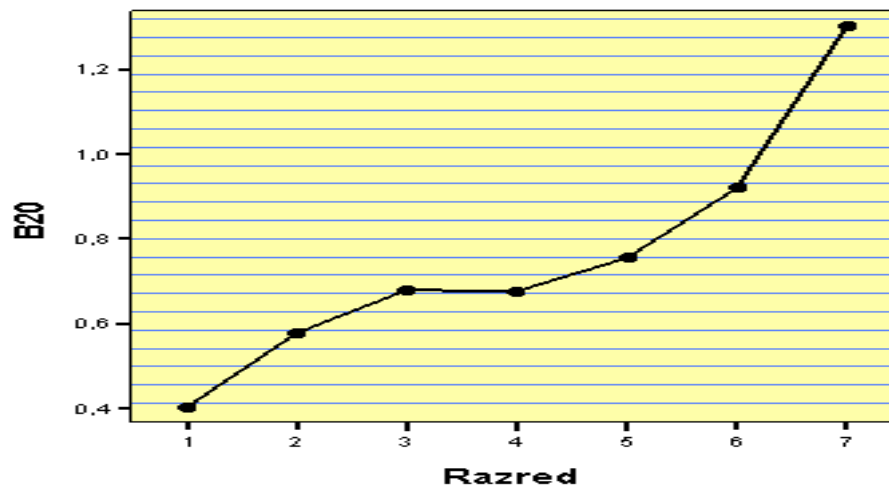
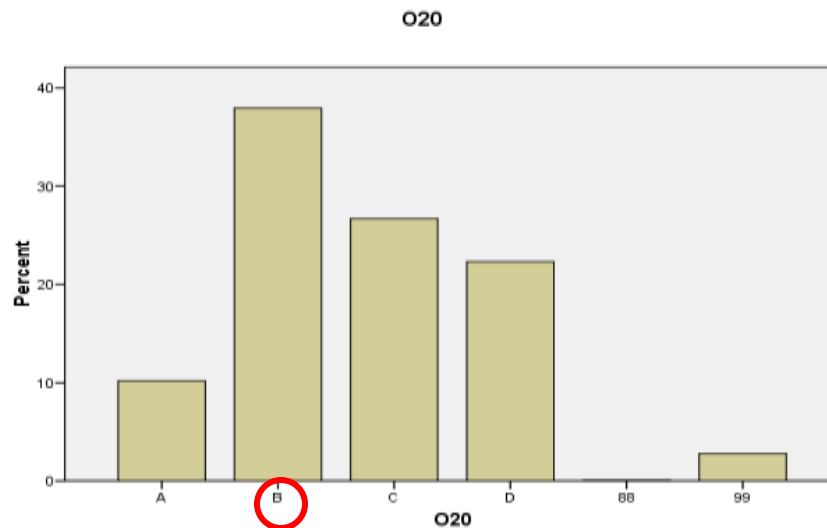
19. Koja je mjerna jedinica za električnu otpornost?

M	0,21 (0,10)
M (O)	0,4
ID	0,22



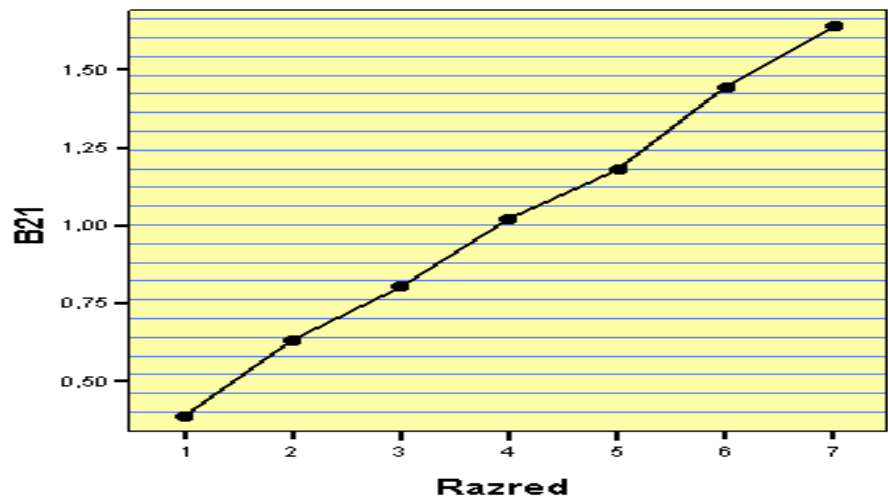
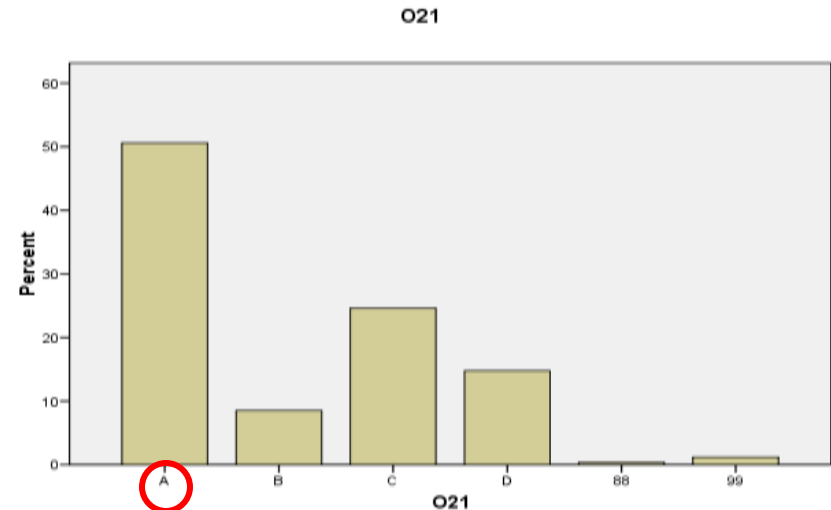
20. Električni titrajni krug sastoji se od zavojnice induktiviteta 2 mH i kondenzatora kapaciteta 80 μ F...

M	0,76 (0,38)
M (O)	0,6
ID	0,22



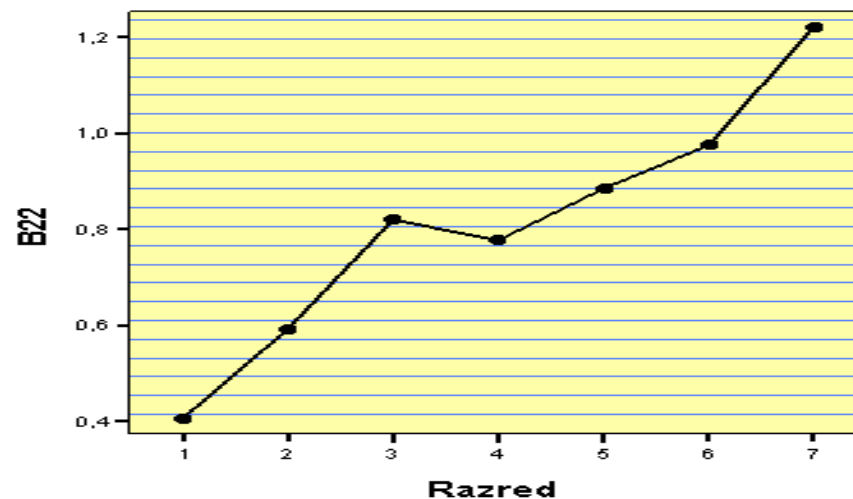
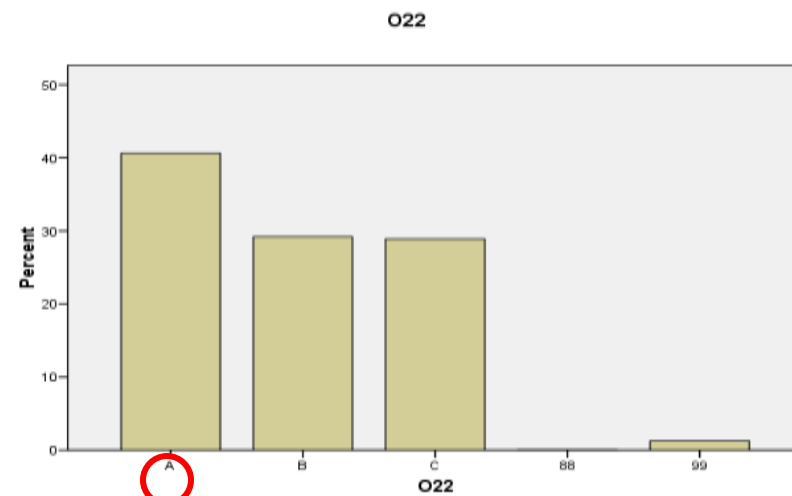
21. Na crtežu su prikazana četiri njihala koja vise na vodoravno šipci. Po dva njihala su jednakih duljina...

M	1,01 (0,51)
M (O)	0,7
ID	0,32



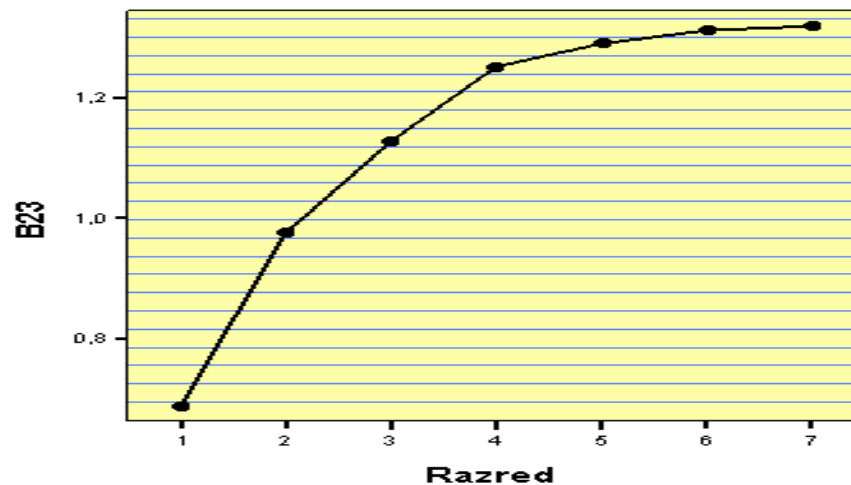
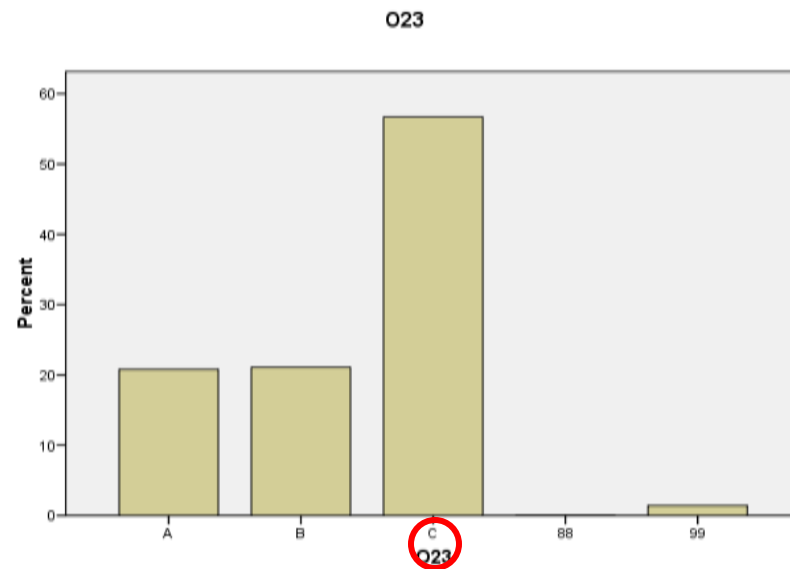
22. Otpornik i zavojnica spojeni su serijski na izvor izmjeničnoga napona. Ako se frekvencija napona smanji, što će se dogoditi s ukupnim otporom kruga?

M	0,81 (0,41)
M (O)	0,4
ID	0,18



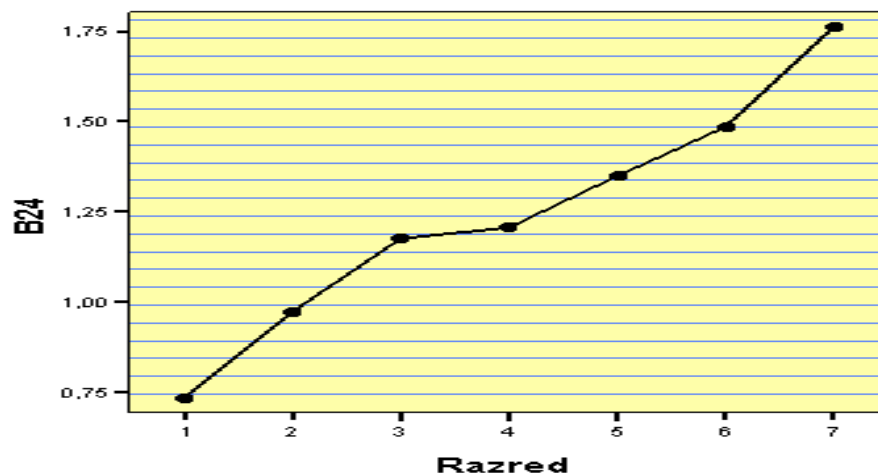
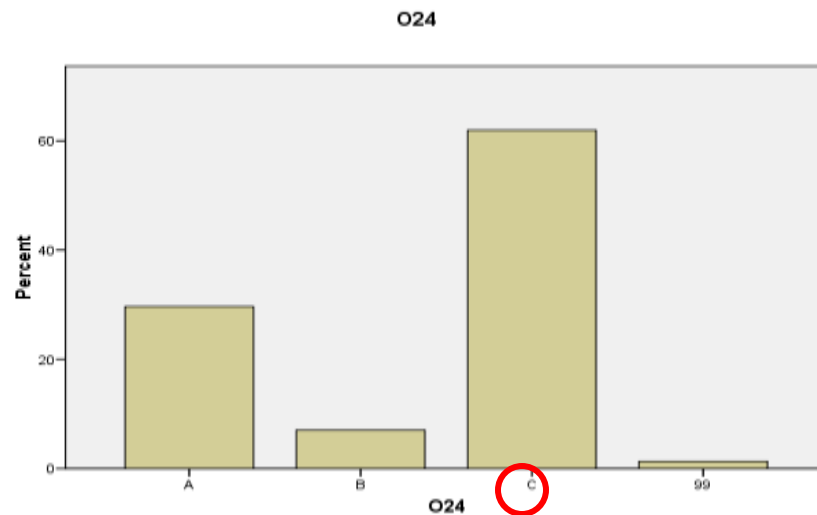
23. Elektroskop je negativno nabijen zbog čega je kazaljka elektroskopa otklonjena za neki kut....

M	1,13 (0,57)
M (O)	0,5
ID	0,09



24. Uteg je ovješten na elastičnu oprugu. Što će se dogoditi s periodom titranja ako na oprugu ovjesimo još jedan uteg?

M	1,24 (0,62)
M (O)	0,7
ID	0,25



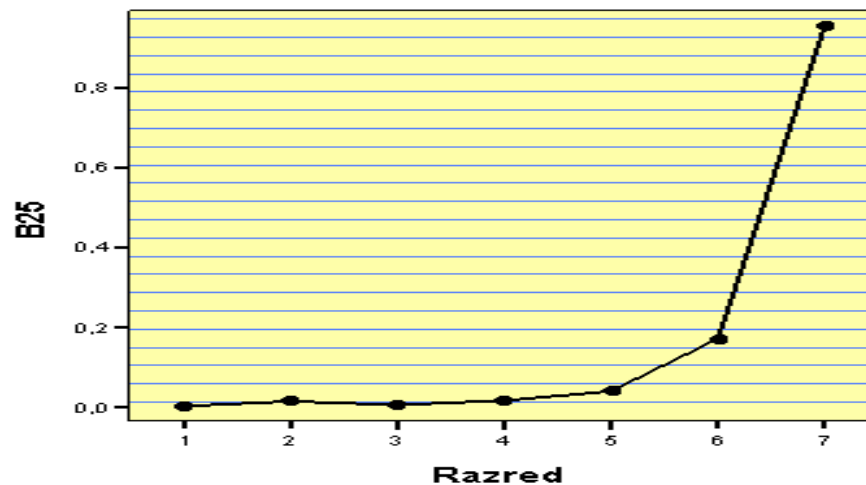
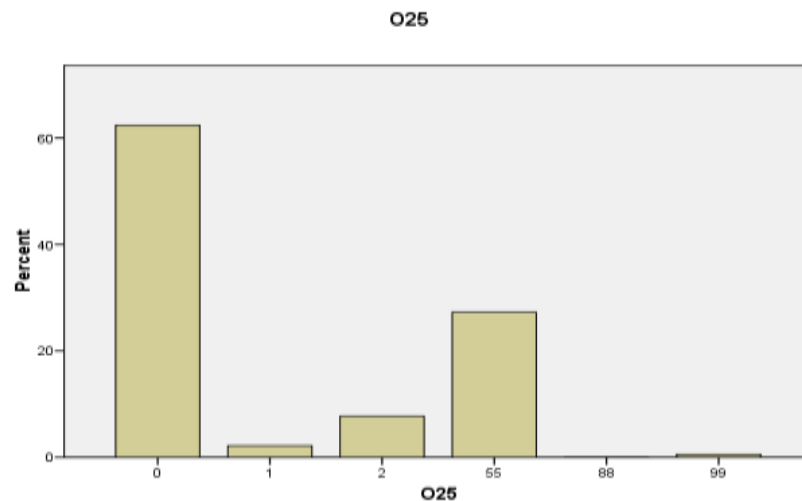
FIZIKA

2. Dio

II. Zadatci produženih odgovora

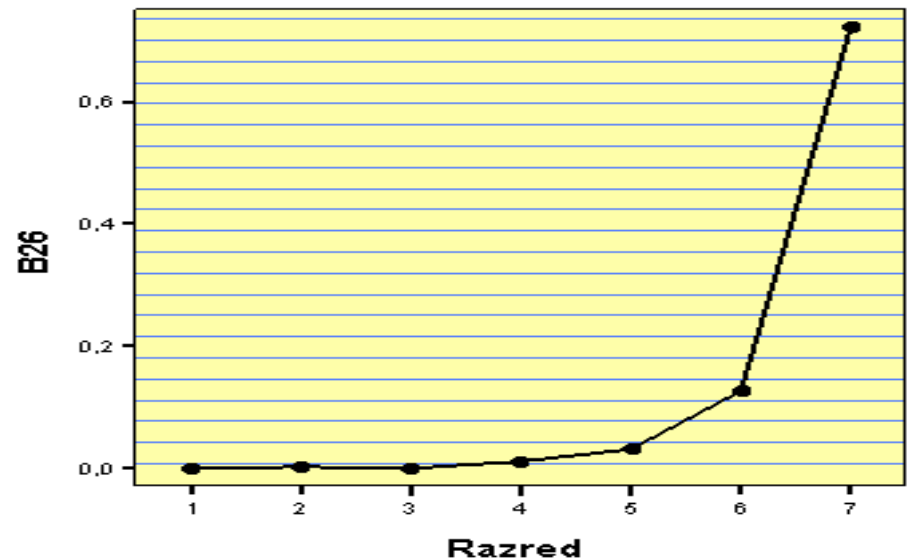
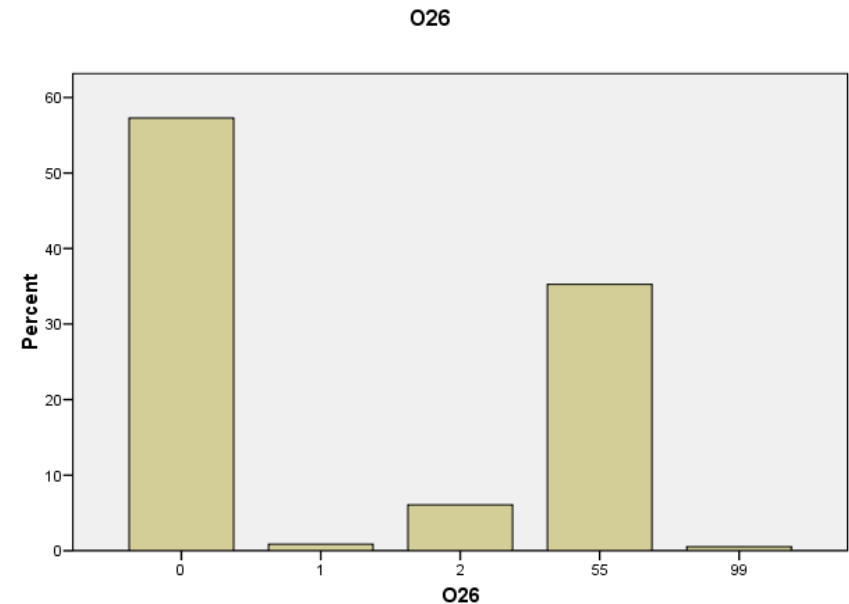
25. Automobil vozi brzinom 20 m/s u vodoravno položenome zavoju...

M	0,18 (0,09)
M (O)	0,4
ID	0,59



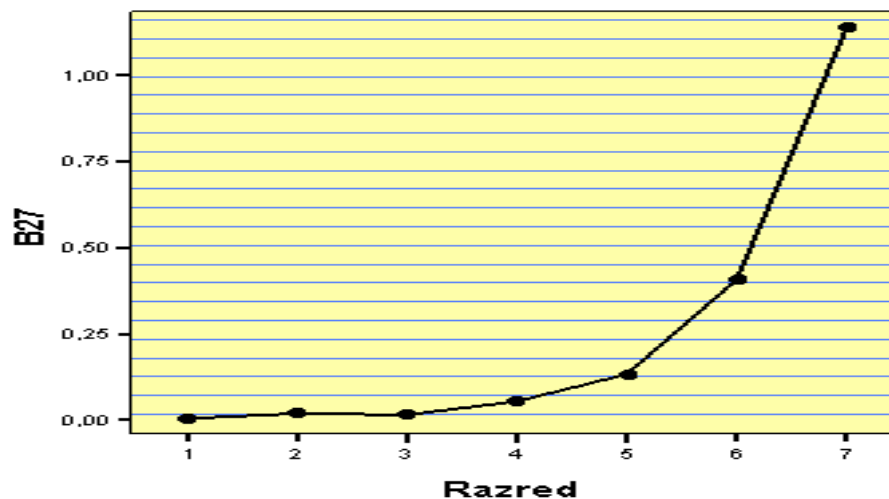
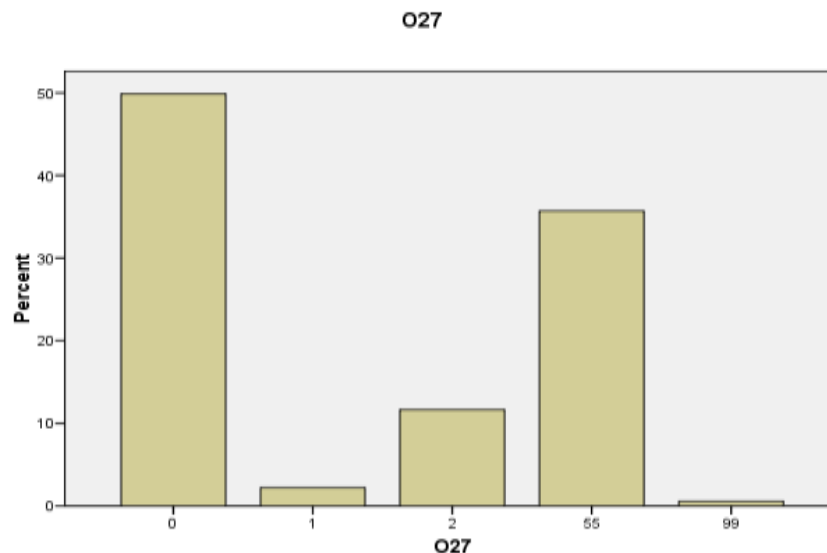
26. Tijelo je bačeno uvis početnom brzinom od 12 m/s...

M	0,13 (0,07)
M (O)	0,3
ID	0,52



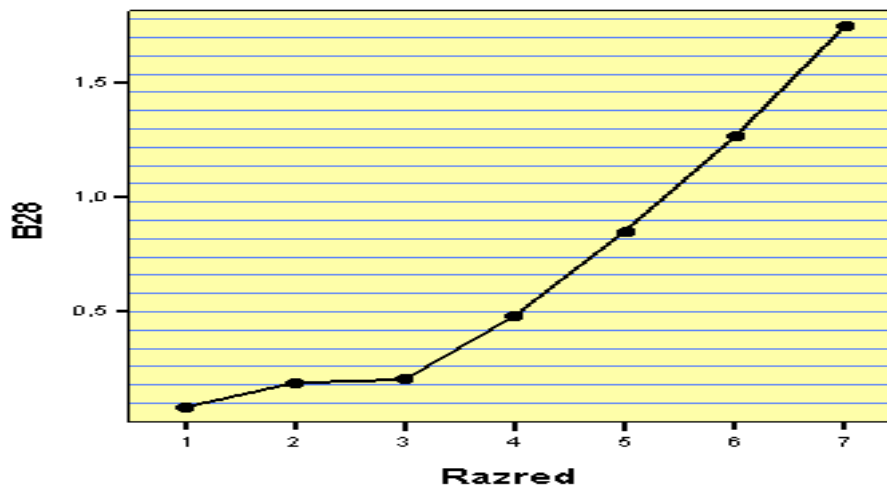
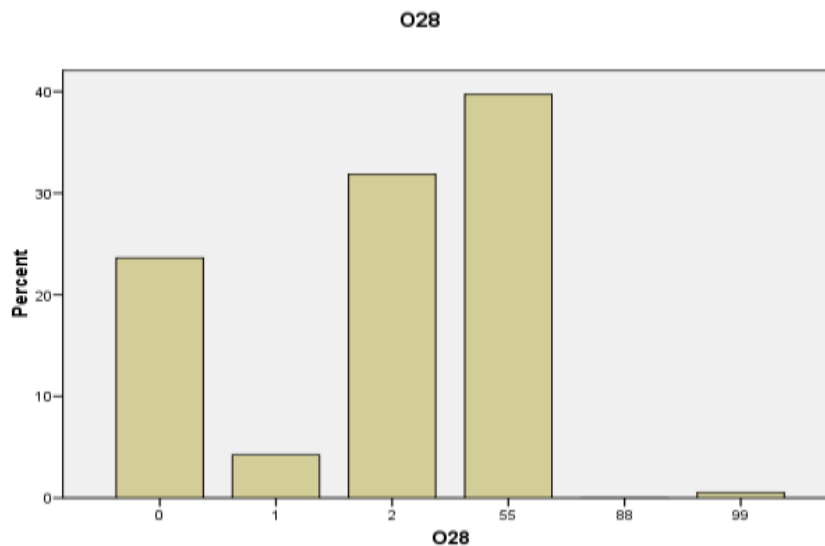
27. Za pripremu tople kupke temperature 35° C u 60 kg hladne vode temperature 20° C dodamo...

M	0,26 (0,13)
M (O)	0,6
ID	0,58



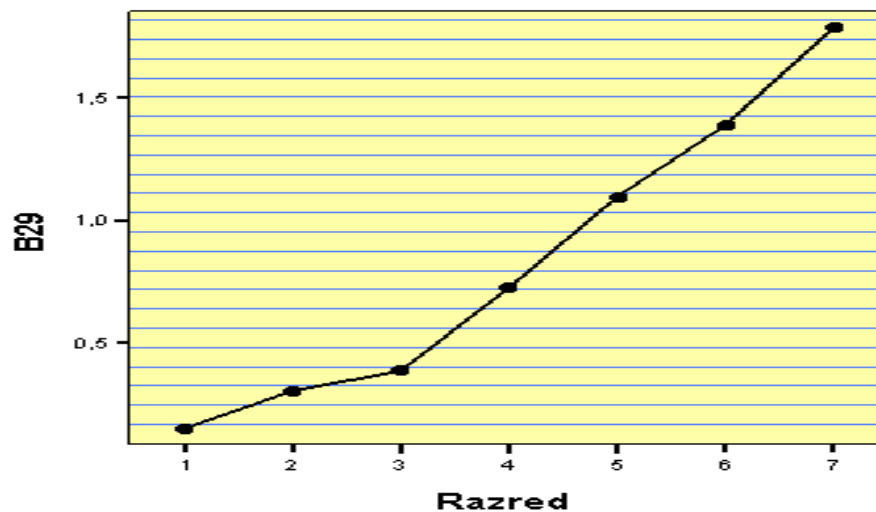
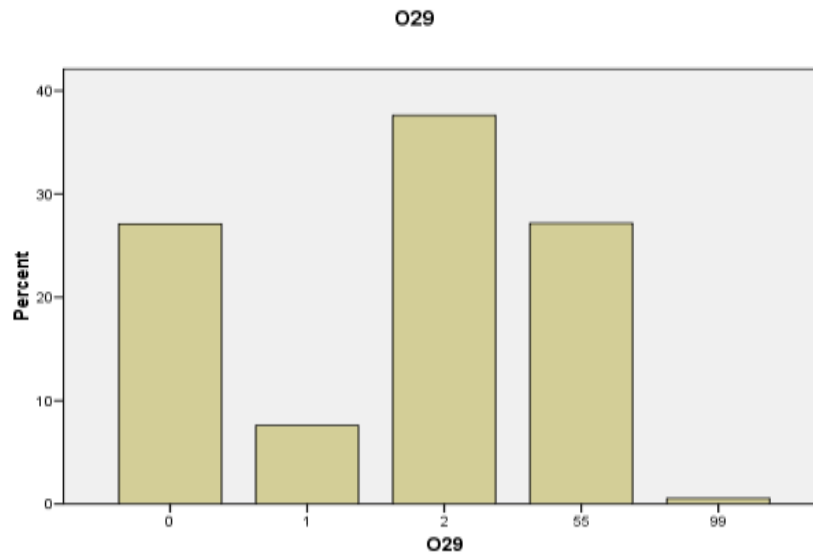
28. Vodič duljine 1m giba se u homogenome magnetskome polju iznosa 0,1 T okomito na silnice polja...

M	0,68 (0,34)
M (O)	0,7
ID	0,57



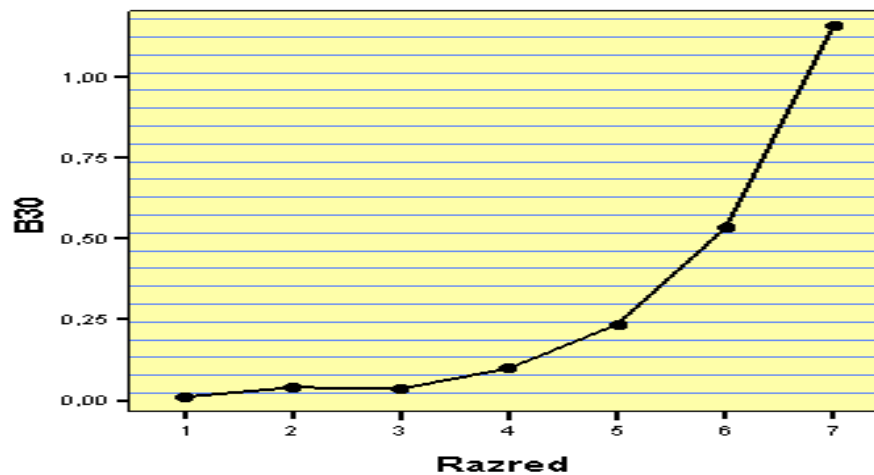
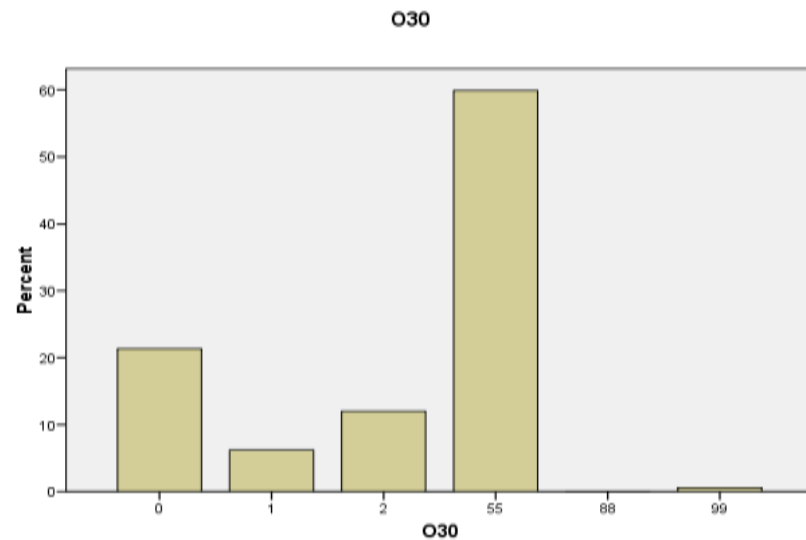
29. Na nekomе električnome uređaju stoje oznake 220 V, 50 W. Koliki je otpor toga uređaja?

M	0,83 (0,41)
M (O)	0,7
ID	0,53



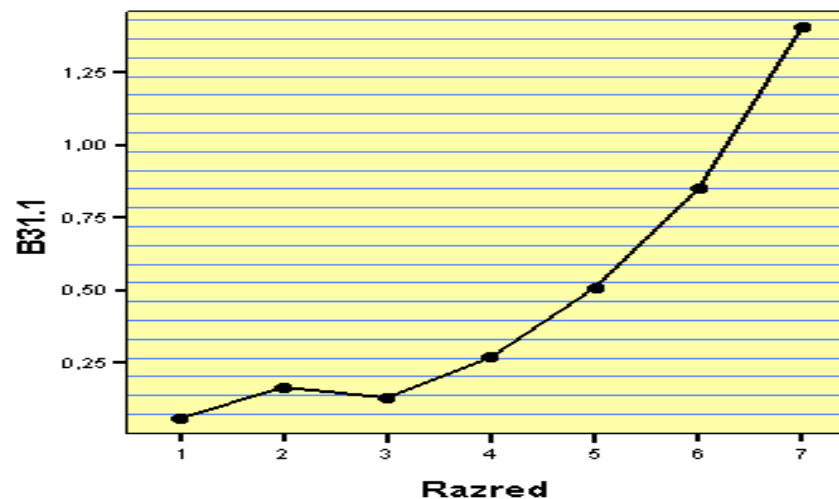
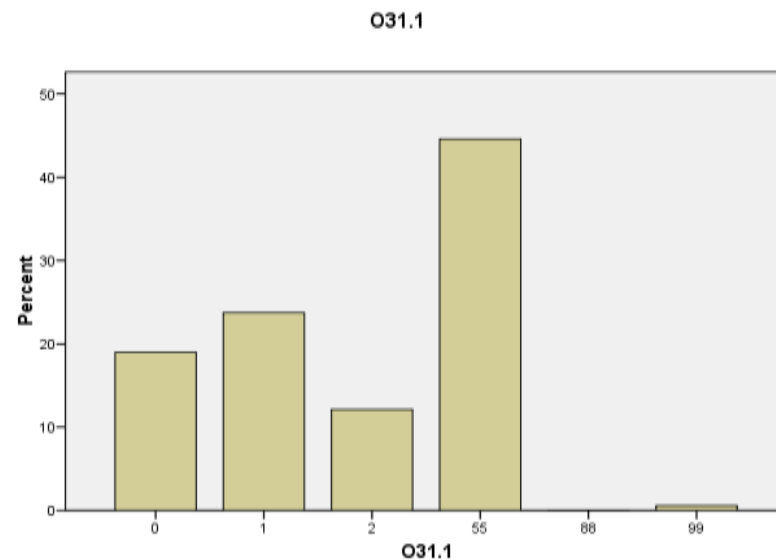
30. Elastičnu zavojnicu na koju je ovješan uteg izvučemo iz položaja ravnoteže...

M	0,30 (0,15)
M (O)	0,3
ID	0,56



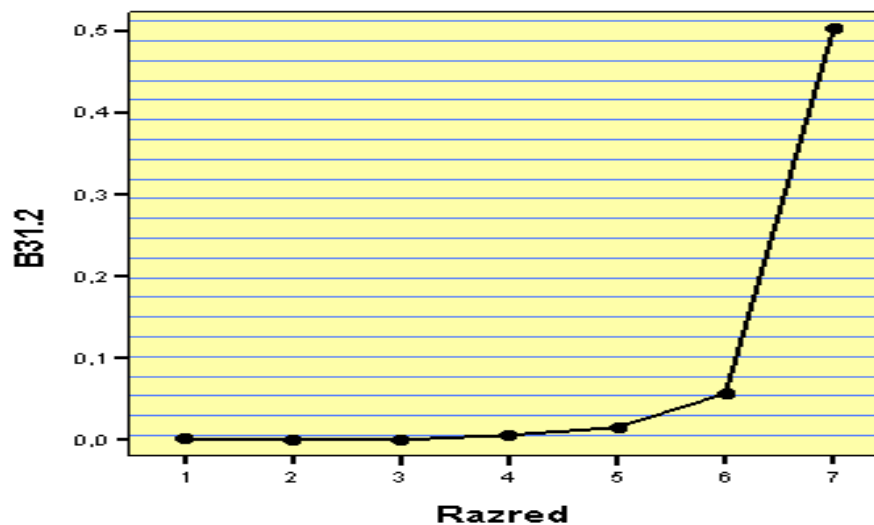
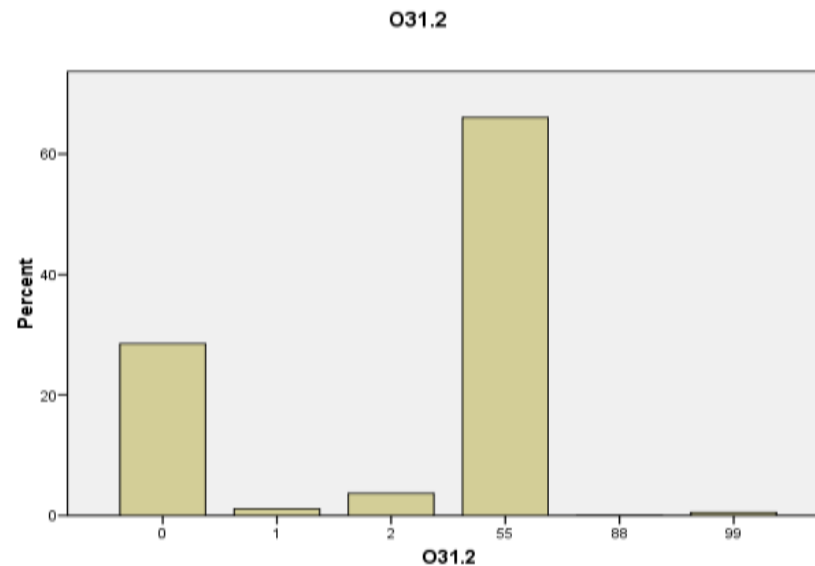
31.1. Kojom silom uzgona djeluje voda na pluto kada je pluto potpuno uronjeno u vodu?

M	0,48 (0,24)
M (O)	0,3
ID	0,63



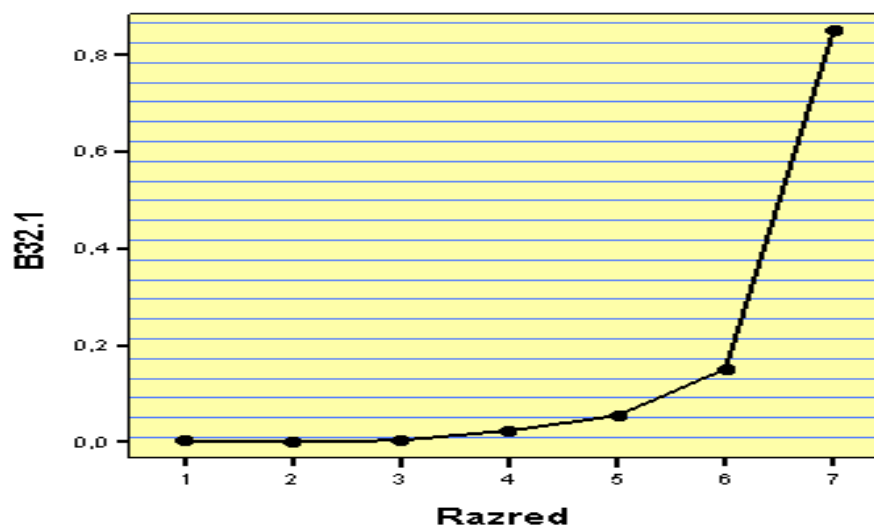
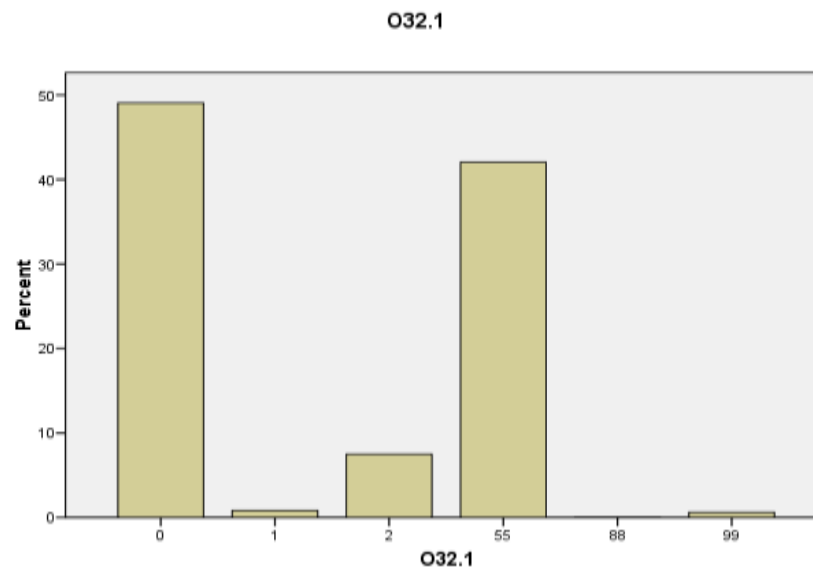
31.2. Kolikom silom trebamo djelovati na pluto da bi ono mirovalo ispod površine vode?

M	0,08 (0,04)
M (O)	0,3
ID	0,47



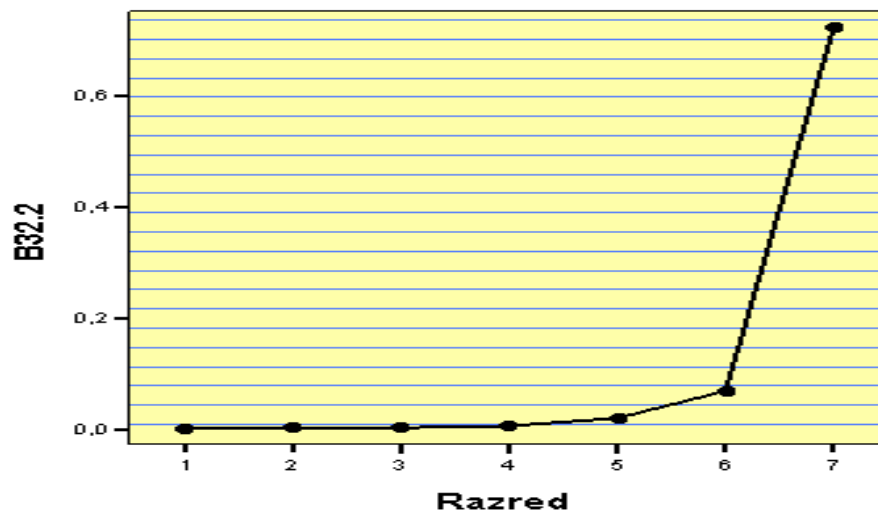
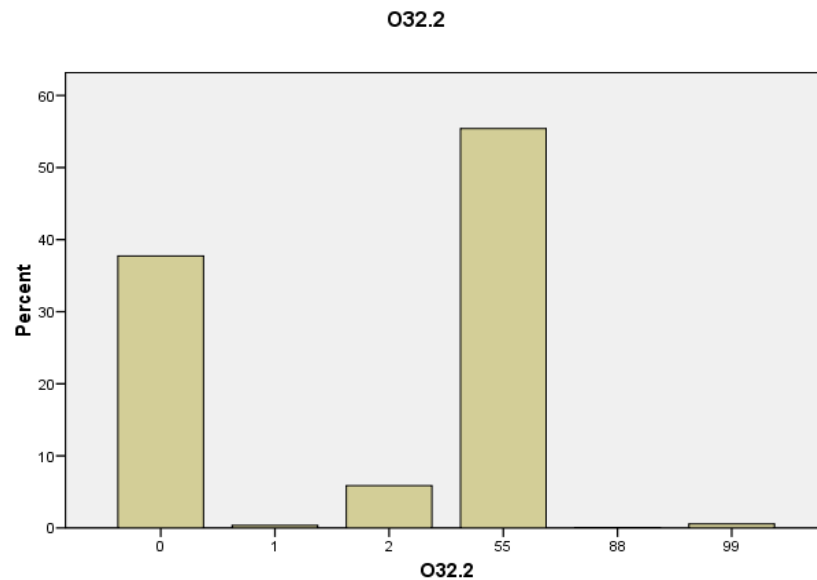
32.1. Koliko iznosi ubrzanje kutije?

M	0,16 (0,08)
M (O)	0,5
ID	0,55



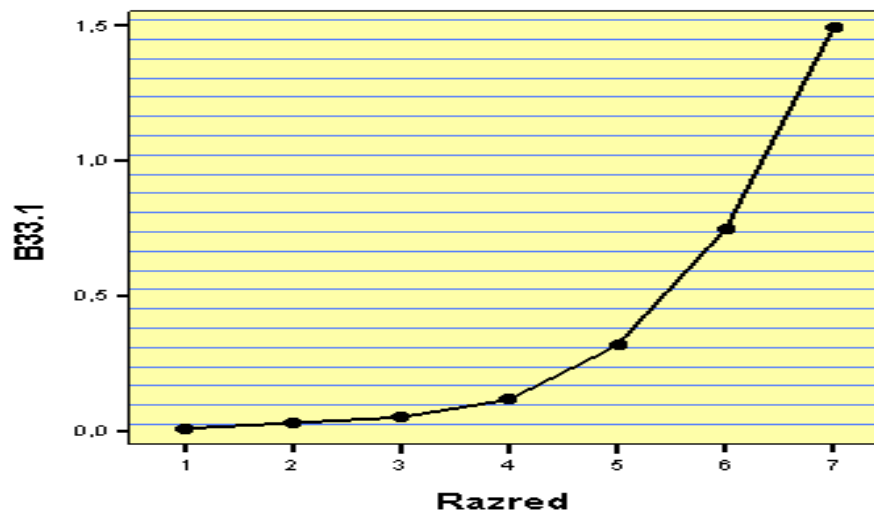
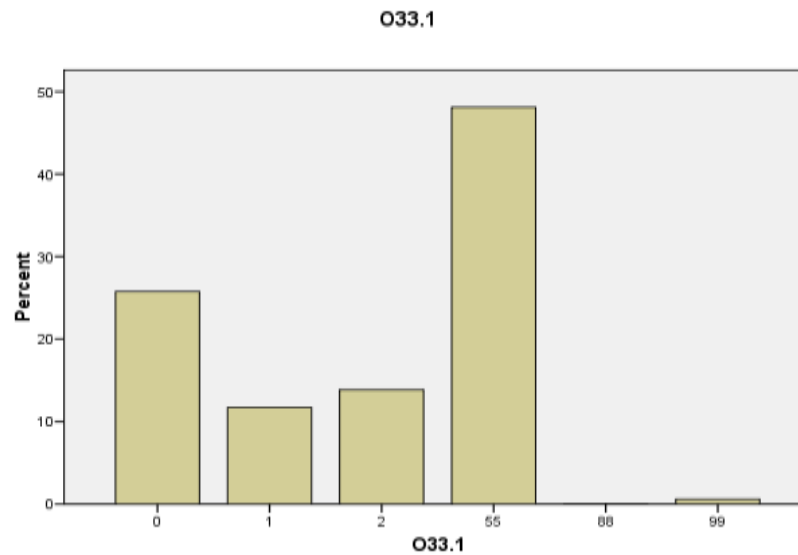
32.2. Kolikom silom kutija pritišće podlogu?

M	0,12 (0,06)
M (O)	0,5
ID	0,54



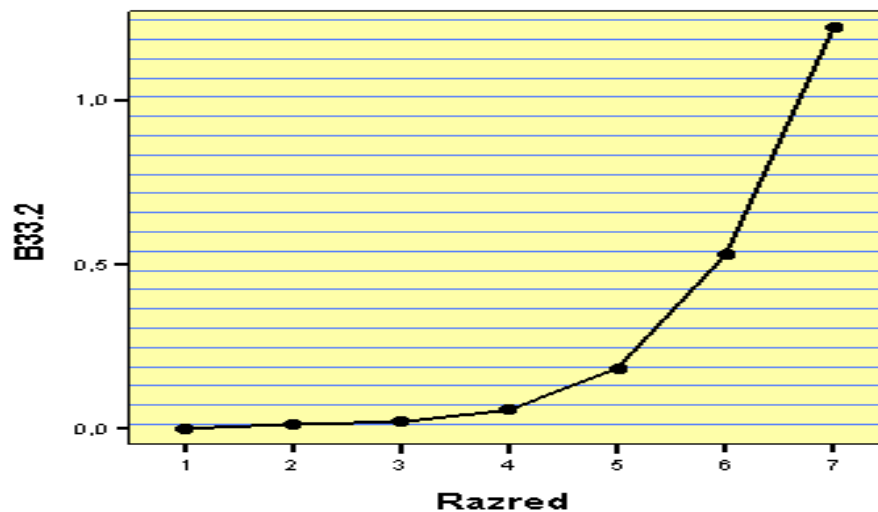
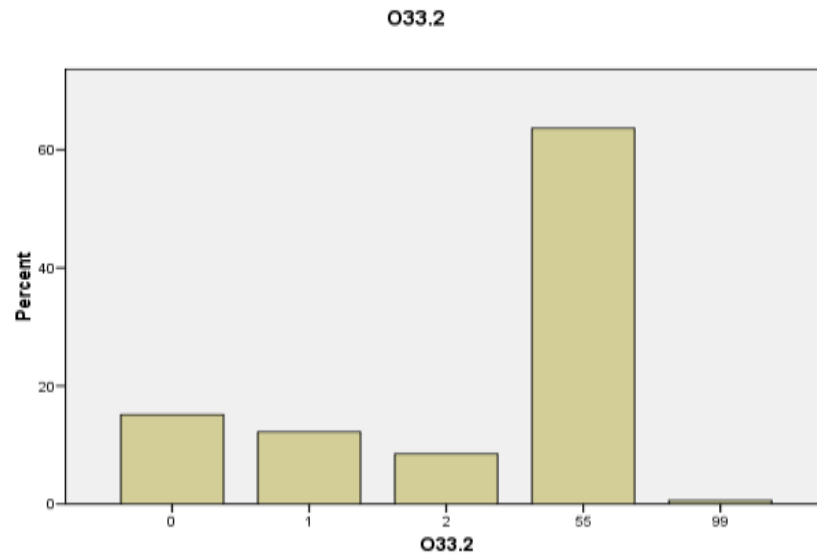
33.1. Kolika je visina zgrade pri temperaturi od 0 °C?

M	0,39 (0,20)
M (O)	0,3
ID	0,68



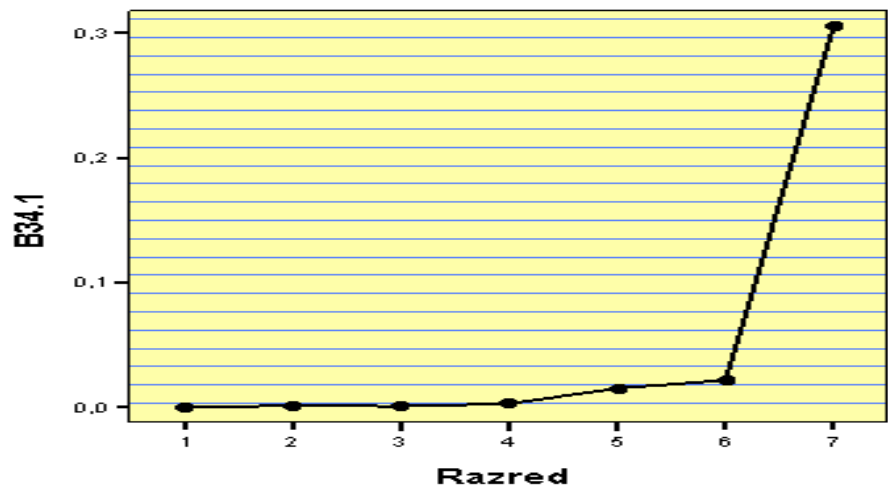
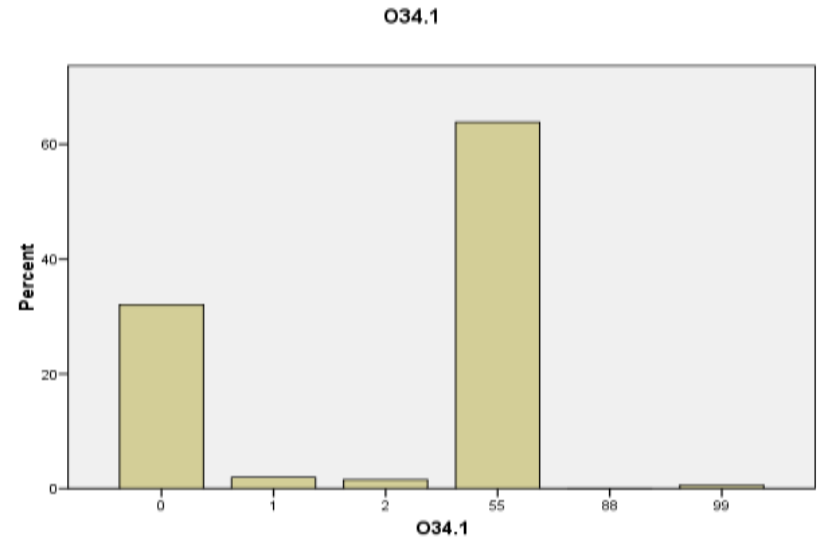
33.2. Za koliko će se promijeniti visina zgrade od zime do ljeta kad je temperatura 25 °C?

M	0,29 (0,15)
M (O)	0,3
ID	0,66



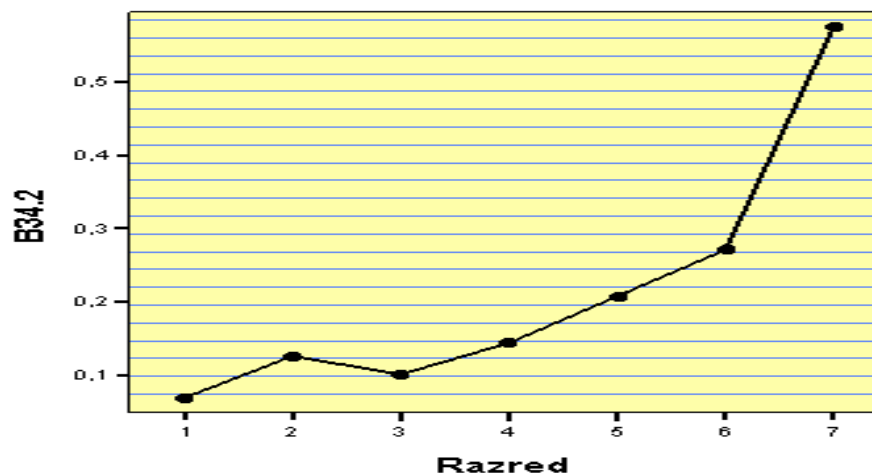
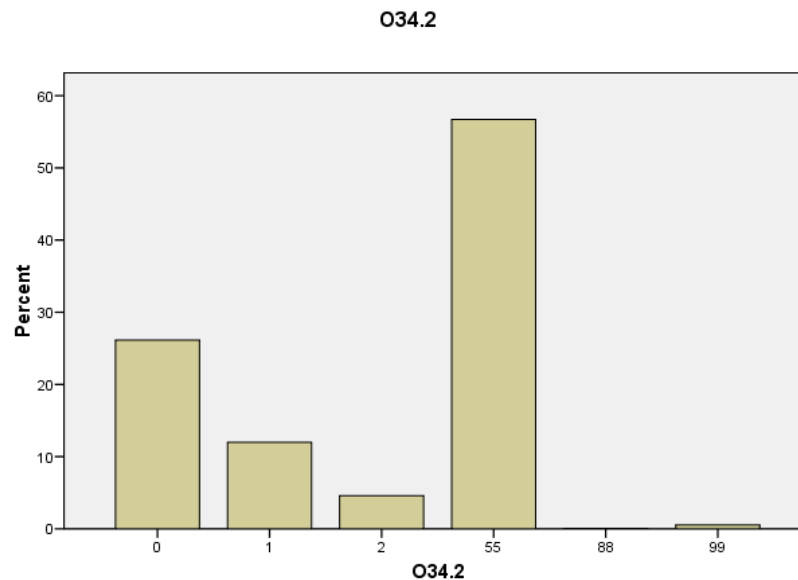
34.1. Koliki je iznos električnoga polja točkastog naboja q u točki T?

M	0,05 (0,03)
M (O)	0,3
ID	0,41



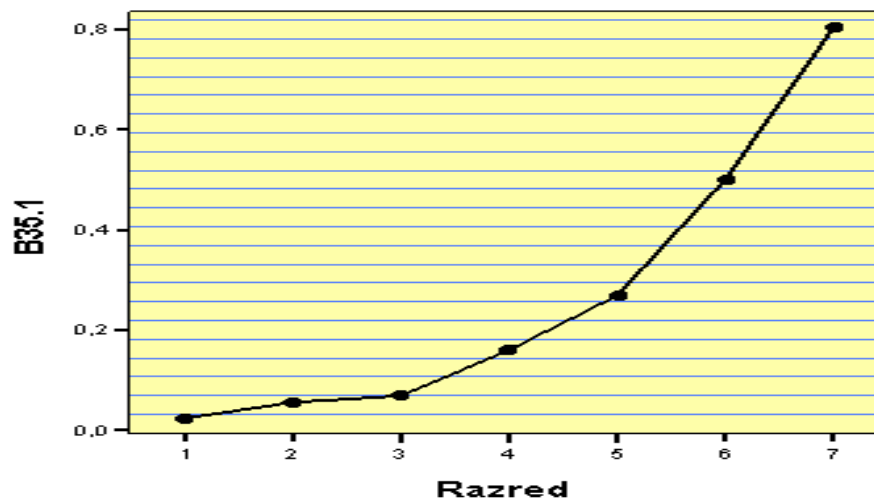
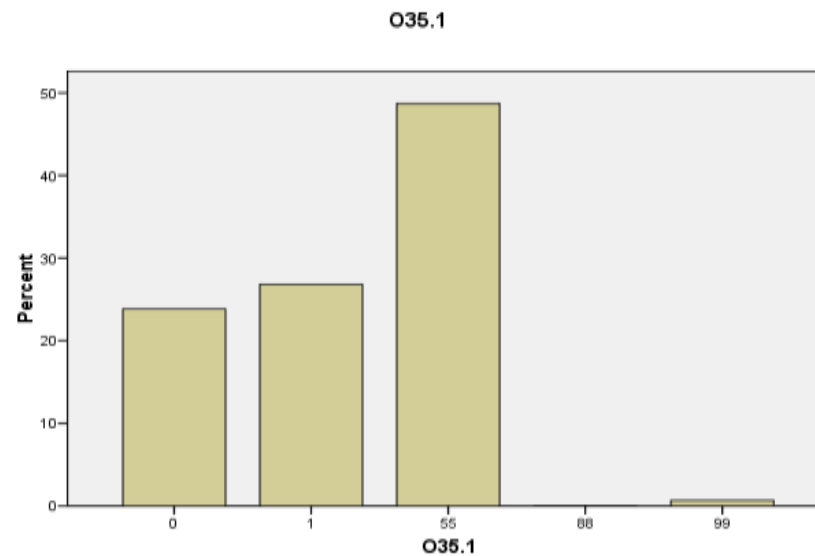
34.2. Ucrtajte na slici vektor električnoga polja u točki T?

M	0,21 (0,11)
M (O)	0,3
ID	0,32



35.1. Kolika je amplituda titranja tijela?

M	0,27
M (O)	0,3
ID	0,58



35.2. Kolika je konstanta elastičnosti opruge?

M	0,06 (0,02)
M (O)	0,3
ID	0,17

