The 2nd International Olympiad on Astronomy and Astrophysics

Bandung, Indonesia

Thursday, August 21, 2008

Practical Competition: Observations

PART 1: Naked Eye

Instructions:

1. *All participants will receive a naked-eye observation problem set, a writing board, a pen, a ruler and a flash light at the examination room.*
2. *Part I consists of three steps: distribution of problem sheets in examination room, naked eye observation on the observing ground (7 minutes), and returning to the examination room to answer questions (8 minutes). Bell ring will indicate the beginning and the end of each step.*
3. *All participants will be guided by assistants to go to the observing ground until return to the examination room. Assistants will collect the answer sheets from your table, after the 8 minute time is up.*
4. *Never forget to fill in the boxes at the top of each answer sheet with your country and your student codes. Otherwise, it will be ignored.*

Country Code	Student Code

PROBLEM

Figure 1 shows a part of the southern sky chart for August 21, 2008 at 07.00 p.m. local time. Unfortunately, a number of bright stars in Capricorn and Scorpio constellations are missing. Now, you have to find those missing bright stars in both constellations by looking at the sky directly. To help you remember, the common names of many bright stars are listed in Table 1. Draw small circles on the locations of the missing bright stars in the Capricorn and Scorpio constellations (Point: 60) and identify them by **putting the numbers on the sky chart**, as many as possible based on the Table 1 (Point: 60). Afterwards, draw on the sky chart, the border of Scorpio constellation (Point: 15) and Capricorn constellation (Point: 15).

Table 1: The number and common name of bright stars

Number	Common Names	Number	Common Names
1	Rukbat (α Sgr)	18	Albali (ε Aqr)
2	Graffias (β Sco)	19	Altair (α Aql)
3	Nunki (σ Sgr)	20	Shaula (λ Sco)
4	Deneb (α Cyg)	21	Vrischika (π Sco)
5	Zaniah (η Vir)	22	Arich (γ Vir)
6	Tarazed (γ Aql)	23	Deneb Algedi (δ Cap)
7	Dabih (β Cap)	24	Heze (ζ Vir)
8	Girtab (κ Sco)	25	Nusakan (β CrB)
9	Spica (α Vir)	26	Wei (ε Sco)
10	Sabik (η Oph)	27	Syrma (ι Vir)
11	Dschubba (δ Sco)	28	Nashira (γ Cap)
12	Kaus Australis (ε Sgr)	29	Lesath (υ Sco)
13	Algiedi (α Cap)	30	Zavijava (β Vir)
14	Sadr (γ Cyg)	31	Arcturus (α Boo)
15	Vindemiatrix (ε Vir)	32	Megrez (δ UMa)
16	Antares (α Sco)	33	Chara (β CVn)
17	Yen (ζ Cap)	34	Sargas (θ Sco)

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PART I: Naked Eye

Sky chart at 19.00 on August 21, 2008

Country and Student Code: .....

Figure 1

