

Answer all of the questions in full.

1. Use the data in **Table 1** of the attached sheet to answer the following questions. (5 pts)

(a) Compute the sex ratio for the age cohort 20 – 24. (1 pt.)

(b) Find the the birth rate. (1 pt.)

(c) Find the general fertlity rate. (1 pt.)

(d) Find the total fertility rate. (2 pts.)

2. Use the data on Daristan in **Table 2** along with the population pyramids in the attached sheet to answer the following questions.(10 pts)
- (a) Compute the population growth rate for Daristan in 1960. (2 pt.)

 - (b) Compute the Human development index for Daristan in the year 2000. (2 pts.)

 - (c) Determine if poverty in Daristan has improved from year 1960 to 2000. (1 pts)

 - (d) Determine in which year, if any, is Daristan experiencing population momentum. Give at least 2 reasons to justify your answer. (3 pts.)

 - (e) Make a general statement about the value of the net migration of Daristan in the year 2000. Justify your answer. (2 pts.)

3. Answer the following questions in full. (5 pts.)

(a) Discuss how the age structure of a population differs in developing countries from that of developed countries. (3 pts)

(b) Discuss why replacement level fertility is different in developing countries from developed countries. (2 pts.)

4. Use the data in the table below to determine the following (5 pts):

Year	CPI (1960)	CPI(2006)	
1960	100		
1961	89		
1962	92		
1963	95	130	
2005		127	
2006		100	
2007		127	
2008		140	

- (a) Chain the above series with 2006 as the new base year.(2 pts.)
- (b) Find the purchasing power of the dollar for the year 1963 and comment on its value. (1 pt.)
- (c) Assume that the income in 2006 is \$2000. Determine by how much income in the year 2008 should increase if the standard of living were to remain unchanged from the year 2006. (2 pts.)

5. Classify the following statements as either **employed**, **unemployed**, or **out of the labour force**. (2 pts.)

_____ A government employee on a two year study leave without pay.

_____ A 10 year old boy working in a factory for \$6 per day.

_____ A Kuwait government employee who has been abroad with his mother for 6 weeks while she gets medical treatment.

_____ A Kuwaiti working in the private sector who lost his job 1 week ago and is now looking for another job.

6. Use the data in **Table 3** on Daristan to answer the following questions. (10 pts.)

(a) For both the year 1960 and 2000, compute the employment indicator that best reflects the nations potential production capacity. (2 pts.)

(b) Find the unemployment rate for Daristan in 1960. (1 pt.)

(c) Assume that the economically active population in agriculture is 4,000, find the number of dependents in this sector (use 1960 data). (2 pts.)

(d) Determine which year 1960 or 2000 does Daristan make better use of its manpower. (5 pts.)

7. Use the data in **Table 4** to determine the following:

(a) Find the GDP per capita and classify the country as high, medium, or low income. (2 pts.)

(b) If the GNI is less than the GDP what does this say about the country? (2 pts.)

(c) Find the Balance of Payments. (2 pts.)

(d) Find the value GDP in US dollars. (2 pts.)

TABLE 1

Population by Age and Sex and Number of Life Births for Tunis 2008				
Age	Female PoP	Male Pop	total	Number of live Births By Age of Mother
0- 4	393639	368626	762265	*
5- 9	409367	383628	792995	*
10- 14	488285	456988	945273	*
15- 19	513438	482373	995811	4650
20- 24	535173	514609	1049782	30248
25- 29	486266	471865	958131	44260
30- 34	444253	432644	876897	39518
35- 39	399564	393556	793120	39518
40- 44	344119	346058	690177	5327
45- 49	287372	295629	583001	650
50- 54	208945	221751	430696	*
55- 59	153837	167994	321831	*
60- 64	131681	149364	281045	*
65- 69	111735	128716	240451	*
70- 74	94473	104068	198541	*
75- 79	69101	73533	142634	*
80+	57250	59826	117076	*
Total all ages	5128498	5051228	10179726	166 718

TABLE 3

	1960	2000
Population 0-14 years	200,000	300,000
Population 15-64 years	1,500,000	1,500,000
Population 64+ years	500,000	400,000
Total Economically Active Population	900,000	750,000
Total Unemployed	40,000	30,000
Female % of the labour force	45 %	49%
Number of fatal injuries at work	8	6
Percentage of manpower engaged in fulltime education	26%	7%

TABLE 4

GNI	2,040,500 Rupees
Population	500,000
Exports	30, 000 Rupees
Imports	60,000 Rupees
Factor income from the rest of the world	65,000 Rupees
Factor income to the rest of the world	150,000 Rupees
PPP Exchange rate	0.75

Formula Sheet

$$\text{Sex Ratio} = 1000 \left(\frac{\text{males in population}}{\text{females in population}} \right)$$

$$\text{Population Density} = \frac{\text{population}}{\text{area in km}^2}$$

$$\text{Birth Rate} = 1000 \left(\frac{\text{births}}{\text{population}} \right)$$

$$\text{Death Rate} = 1000 \left(\frac{\text{deaths}}{\text{population}} \right)$$

$$\text{Population Growth Rate} = \text{birth rate}\% - \text{death rate}\%$$

$$\text{Annual Population Growth Rate}\% = 100 \frac{\text{population increase in one year}}{\text{population at start of the year}}$$

$$\text{Fertility Rate} = 1000 \left(\frac{\text{births in one year}}{\text{childbearing female population}} \right)$$

$$ASFR_i = 1000 \left(\frac{\text{number of births in one year for age cohort } i}{\text{pop of females in age cohort } i} \right)$$

$$MF = \frac{(\text{Crude Birth Rate} \times \text{Life Expectancy at Birth})}{1000}$$

$$\text{Dimension Index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

$$\text{HDI} = \frac{1}{3} \text{life expectancy index} + \frac{1}{3} \text{education index} + \frac{1}{3} \text{GDP index}$$

$$\text{HP1-1} = \left[\frac{1}{3} (P_1^3 + P_2^3 + P_3^3) \right]^{\frac{1}{3}}$$

$$\text{Manpower Rate} = 100 \left(\frac{\text{manpower}}{\text{population}} \right)$$

$$\text{Participation Rate} = 100 \left(\frac{\text{labour force}}{15 \leq \text{population} < 65} \right)$$

$$\text{Age Dependency Rate} = 100 \left(\frac{(\text{population} < 15) + (\text{population} \geq 65)}{15 \leq \text{population} < 65} \right)$$

$$\text{Dependency Rate} = 100 \left(\frac{\text{population} - \text{labour force}}{\text{labour force}} \right)$$

$$\text{Adjusted Dependency Rate} = 100 \left(\frac{\text{population} - \text{employed}}{\text{employed}} \right)$$

$$\text{Unemployment Rate} = 100 \left(\frac{\text{unemployed}}{\text{labour force}} \right)$$

$$\text{Net Production} = \sum P_0 Q_0 - \sum p_0 q_0$$

$$\text{Production Index} = \left(\frac{V_1}{V_0} \right) \left(\frac{I_0}{I_1} \right) 100$$

$$\text{Labour Index} = \left(\frac{L_1}{L_0} \right) 100$$

$$\text{Index of Labour Productivity} = \left(\frac{\text{Production Index}}{\text{Labour Index}} \right) 100$$

$$GDP = C + I + G + (X - M)$$