NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91 Cadastral Zone, Jabi, Abuja.
DEPARTMENT OF EDUCATIONAL FOUNDATIONS
2024_2 EXAMINATION

Course Code: EDA844
Course Title: Educational Statistics for Educational Managers
Credit Units: 2
Time Allowed: 2 Hours
Instruction: Answer Question 1 and any other 2

Note: Question 1 carries 30marks while others carry 20marks each

QUESTIONS

1a. What is the difference between growth and birth rate? What is the natural growth rate of population?
12 marks

1b. Write short notes on the following concepts:
(i) Birth projection
(ii) Population growth
(iii) Population projection or forecast
(iv) Growth rate based on arithmetic progression
(v) Growth rate based on geometric progression 12 marks

1c. Calculate the population growth using arithmetic and progression rates. If Nigeria's census figures for 1991 and 2006 were 78,000,000 and 148,000,000, what is the rate of growth/change? 6 marks

$$\textit{Arithmetic progression} \quad r = \frac{Pt - Po}{\frac{Po}{n} X\ 100}$$

where:

r = (% Annual Rate of change growth over the period between P_t and P_0)
P1 = (Population in the last two censuses)
P_0 = Population of the initial census (i.e. the latest census figures) e.g. 2006 will give Nigeria latest census)
n = (census was Nigerian P_0 here. Number of years between the two census dates)
P_t = (% Annual Rate of change growth over the period between P_t and P_0)

Solution:

1991 population = 78,000,000, and
2006 population = 148,000,000, with
n = 15 years (Between 1991 and 2006)

2a. Define enrolment ratio. What are the benefits of enrolment ratio? List the drawbacks of this ratio. Proffer solutions towards addressing these drawbacks. 12 marks

2b. What do you understand as overall enrolment ratio? Using the formula below, calculate the overall enrolment ratio for the pupils/students in 2002. 8 marks
$E^t_p + E^t_s + E^t_h$, where:

E^t_p = *Primary school enrolment*
E^t_s = *Secondary school enrolment*
E^t_h = *Higher education enrolment*

P^t_0 = *Total population of the corresponding school age in year t*

E^t_{ap} = *6 – 11 age population (for primary)*
E^t_{as} = *12 – 17 age population (for secondary)*
E^t_{ah} = *18 – 22 age population (for higher education)*

Enrolment by level, year 2002

Levels	Enrolment (Year 2006)
Primary	*250,000*
Secondary	*200,000*
Higher education	*110,000*
	560,000

Levels of Education/Age groups	
Primary (6 – 11)	*400,000*
Secondary (12 – 17)	*320,000*
Higher education (18 – 22)	*230,000*
	950,000

3a. Differentiate between gross and net level enrolment ratio. 5 marks

3b. Using the formula below, calculate the gross and net level enrolment ratios. What are the implications of the results obtained? 5 marks

3c. If *Pt* or Population aged 6 – 11 in 2000 = 100,000 in Omolewa State; and enrolment at the primary level in the same year was 92,000. Calculate the gross level enrolment ratio. 5 marks

3d. Consider the following enrolment and population data in a state school's system.

Primary level = 200,000
Secondary level = 150,000
Higher level = 100,000, and

Population for:	Primary (6 – 11)	500,000
	Secondary (12 – 17)	270,000
	Higher (18 – 22)	200,000

Then calculate the net level enrolment ratio for secondary level. 5 marks

4a. Describe age specific enrolment ratio. 5 marks

4b. Consider the following data to calculate age specific enrolment ratio.

- Age Group under consideration = 12 – 17 years
- Population of the age group 12 – 17 = 100,000
- Enrolment of the age group 12 – 17 in the school system
  12 – 17 age group → in primary school = 15,000
  12 – 17 age group → in secondary school = 40,000
  12 – 17 age group → in higher institution = 5,000 5 marks

4c. Write short notes on the following concepts:

(i) Progression or grade ratio
(ii) Literacy rate
(iii) Non-schooling rate
(iv) Sex ratio
(v) Teacher-Pupil/Student ratio 10 marks