> **注意事項：**
> 1. 本試題共分兩大部分，第一部份為教育研究，第二部份為教育統計，配分共 100 分。
> 2. 請標明大題、子題編號作答，不必抄題。
> 3. 全部答案均須在答案卷之答案欄內作答，否則不予計分。

第一部份：教育研究法（60%）

I. In the social sciences, triangulation is often used. Please describe the definition of triangulation, its purpose, and its basic four types. (30%)

II. Validity is an issue that has been described in great deal by advocates of quantitative researchers. How the validity in qualitative research is defined? And how do qualitative researchers reckon with the validity issue? (30%)

第二部份：教育統計（40%）　每小題2分

Instruction: (1) This section includes 10 *True/False* and 10 *multiple-choice* questions.

(2) Please answer *T(True)* or *F(False)* on the Answer Sheet for question 1 ~ 10 and indicate the right answers on the Answer Sheet for question 11 ~ 20.

1. The *mean* is responsive to the exact position of each score in a distribution.

2. In a negatively skewed distribution, the mean has a lower score than the median.

3. In a normal distribution, the mean, median and mode have a same score.

4. Give two sets of scores: [X: 5, 8, 3, 5, 7], [Y: 4, 7, 2, 4, 6]. The standard deviation of X is higher than that of Y.

5. The mean of any set of z scores is always zero.

6. For normally distributed scores, 50% of scores would fall above $z = 0.5$.

7. The correlation coefficient always falls between 0 and 1.

8. The heterogeneity of samples may have a high correlation coefficient.

9. If $\sigma = 100$, n $=100$, the standard error of mean $= 1$

10. A type II error occurs when Ho is true and accepted.

11. When scores are in the form of ranks, the correlation is (A) point biserial correlation (B) biserial correlation (C) contingency coefficient (D) Spearman's rho.

12. If $r = 0.9$, the coefficient of determination should be (A) 0.3 (B) 0.45 (C) 0.81 (D) 0.9

13. Find the median of these scores: 1, 4, 8, 9, 13 (A) 3 (B) 7 (C) 8 (D) 12

14. In a normal distribution, the probability of a score higher than $z = -1.96$ is (A) 0.025 (B) 0.05 (C) 0.95 (D) 0.975

15. A size of 100 samples are drawn from a population with $\mu = 100$ and $\sigma = 20$. At 0.95 confidence level, the upper limit of the sample mean is (A) 96.18 (B) 98.42 (C) 101.38 (D) 103.92

16. The right testing hypothesis about the difference between two independent means is (A) Ho : $\mu x = \mu y$ (B) HA : $\mu x = \mu y$ (C) Ho : $\mu x - \mu y$ (D) HA : $\mu x - \mu y$

17. To test whether three independent means have the same value, we may use (A) t test (B) Z test (C) Chi-Square (D) F test

18. To test whether two small independent groups have the same mean, we may use (A) t test (B) Z test (C) Chi-Square (D) F test

19. To test the difference of two means with each sample size of 200, we may use (A) t test (B) Z test (C) Chi-Square (D) F test

20. Most usually, a measure of discrepancy between expected and obtained frequencies or a test about proportions is (A) t test (B) z test (C) Chi-Square (D) F test