

國立臺中教育大學 110 學年度教師專業碩士學位學程招生考試

幼兒專業試題

一、素養導向題組（每題組 15%，共 30%）

題組一

有阿賢、阿鴻、阿寶、阿榮四位家長，最近想為孩子選擇適合就讀的幼兒園所，大家都提出自己對幼兒教育的想法：

阿賢說：「我重視孩子的秩序感和生活自理能力。」

阿鴻說：「我認為發展是質的改變。幼兒園的教學須重視孩子上小學所需具備的基本認知能力，不能讓我的孩子輸在起跑點。」

阿寶說：「我期待幼兒園能教會我的孩子凡事能先學習思考，會自己計畫事情並執行、考核，還要能主動。」

阿榮說：「我的孩子要親近大自然，身、心、靈要全面發展，幼兒園不需要教我的孩子看書、寫字。」

1. 請將四位家長的幼兒教育想法與其最有可能的課程模式進行適當的配對。(4%)

- |                    |                                     |
|--------------------|-------------------------------------|
| (1) 阿賢：秩序感、生活自理    | (A) 華德福課程取向(Waldorf Approach)       |
| (2) 阿鴻：質的改變、基本認知能力 | (B) 河濱街課程模式(Bank Street Approach)   |
| (3) 阿寶：計畫工作回顧、主動   | (C) 瑞吉歐課程取向(Reggio Emilia Approach) |
| (4) 阿榮：崇尚自然、不寫字    | (D) 蒙特梭利教學法(Montessori Method)      |
|                    | (E) 高瞻課程取向(High Scope Approach)     |
|                    | (F) 大單元課程取向(great-unit design)      |

請填答：(1)\_\_\_\_\_ (2)\_\_\_\_\_ (3)\_\_\_\_\_ (4)\_\_\_\_\_

2. 如果你是家長，你會將孩子送到以上哪一種課程模式的幼兒園？請試舉該模式具體重點，說明此課程模式的教育理念為何？(5%)

3. 如果你是老師，請選擇一種上述的課程模式就其重點及教育理念，安排該課程模式一週作息表及繪製教室環境平面圖（例如：可從區域、材料、教具或元素等面向思考）。(6%)

（背面尚有試題）

題組二

依依、雙雙、姍姍、思思四位好朋友一起繪畫，大家都提出自己對畫作的想法。

依依說：「這是媽媽」，又指著圖上的圓圈說：「這是爸爸、我，還有小白（家裡養的狗）」。

雙雙說：「我畫的是我和姊姊去游泳，因為我和姊姊最喜歡玩水。」

姍姍說：「咻～咻～咻～。」

思思說：「太陽是紅色圓圓的，小草刺刺的。」

1. 請將四位幼兒的畫作依 Lowenfeld 所提兒童繪畫發展階段進行適當的配對。  
(4%)

<p>(1) 依依</p> 	<p>(3) 姍姍</p> 
<p>(2) 雙雙</p> 	<p>(4) 思思</p> 

- (A) 圖式期(Schematic Stage)
- (B) 控制塗鴉期
- (C) 黨群期(Gang Age)
- (D) 前圖式期(Preschematic Stage)
- (E) 象徵期
- (F) 隨意塗鴉期(the Scribbling Stage)

請填答：(1)\_\_\_\_\_ (2)\_\_\_\_\_ (3)\_\_\_\_\_ (4)\_\_\_\_\_

2. 以上繪畫發展階段，請試舉其中兩個階段具體重點，說明之。(6%)

3. 請依據問題二的繪畫發展階段，說明該階段教師該做甚麼樣的輔導可以幫助其

達到「最近發展區」？(5%)

## 二、問答題(70%)

1. 甜甜班在進行主題課程「小小藝術家」時，老師規劃了市立美術館校外教學活動，這是甜甜班幼生第一次到美術館參觀，老師希望藉由這次校外教學，深化幼兒的學習經驗。
  - (1) 請問老師在行前應該完成哪些校外教學前的準備工作？(10%)
  - (2) 市立美術館參觀後，請問老師可以在教室中延伸哪些學習活動，來深化幼兒的學習經驗？(10%)
  
2. 依據教育部公布之「幼兒園教保人員工作倫理守則參考資料總說明」，試說明教保服務人員在面對「幼兒及其家庭」與「同事」時，應做到哪些負責誠信的服務倫理與組織倫理？(25%)
  
3. 何謂文化回應教學(Culturally Responsive Teaching)？請就臺灣的文化脈絡和社會情境，探討幼兒園教師如何在「課程與教學」和「班級經營」上實踐文化回應教學？(25%)

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自然科學專業試題

一、選擇題（每題 4%，共 60%）

- 下列哪一種現象是共振現象的一種？
  - 鐘擺
  - 盪鞦韆
  - 海浪
  - 雷聲
- 聲音在空氣中傳播時，是屬於何種熱學過程？
  - 熱傳導過程
  - 熱對流過程
  - 絕熱過程
  - 熱平衡過程
- 當一物體在地球的重力場中進行自由落體運動時，則物體與地球形成的系統，在下列敘述中何者正確？
  - 系統的總動量保持不變
  - 系統的總位能保持不變
  - 系統的總動能保持不變
  - 系統的總熱能保持不變
- 當一陀螺在重力所在的平面上，直立進行自轉運動時，其角動量的變化率應等於下列哪一個物理量？
  - 陀螺的重量
  - 陀螺的加速度
  - 陀螺的速度
  - 重力施予陀螺的力矩
- 下列哪一種由定滑輪與動滑輪組成的輪組可以讓施力(F)與負載(W)達到一比九的關係？
  - 三個定滑輪數及兩個動滑輪
  - 四個定滑輪數及三個動滑輪
  - 五個定滑輪數及四個動滑輪
  - 六個定滑輪數及五個動滑輪

（背面尚有試題）

6. 脂質與其他生物分子最大不同的特點為何？
- (A) 因結構特別複雜
  - (B) 因內部不含 C 原子
  - (C) 因不為實際上的多元體
  - (D) 因其非存在所有生命體中
7. 下列何者並非細胞呼吸的產物？
- (A)  $O_2$
  - (B)  $H_2O$
  - (C)  $CO_2$
  - (D) ATP
8. 下列情形何者屬於族群發展的非密度相關因子(density independent Factor)？
- (A) 寄生型態的生活
  - (B) 雄性競爭取得雌性的青睞
  - (C) 狼群競爭活動的領域
  - (D) 豪大雨後造成的洪流
9. 假設你扭傷腳踝，下列敘述何者最吻合你的狀況？
- (A) 半月板軟骨撕裂
  - (B) 黏液囊周邊發炎
  - (C) 關節的軟骨構造磨損
  - (D) 腳踝韌帶及肌腱過度伸張
10. 皮膚容易撕裂出血，最可能肇因於下列哪一種情形？
- (A) 飲食熱量不足
  - (B) 維生素 C 攝取不足易造成皮膚撕裂出血
  - (C) 皮膚脂質分泌不足
  - (D) 維生素 D 製造不足
11. 蘋果、橘子、花生及稻米是屬於下列哪一種分類？
- (A) gymnosperms
  - (B) bryophytes
  - (C) angiosperms
  - (D) charophytes
12. 下列何者與染色體學說的建立最不相關？
- (A) 染色體由 DNA 組成
  - (B) 減數分裂時，發生染色體聯會
  - (C) 減數分裂時，非同圓染色體分離
  - (D) 受精卵染色體分別來自精子與卵

13. 下列植物運動的機制與其他不同？

- (A) 豌豆的捲鬚會纏繞棚架
- (B) 大豆的葉片在夜間閉合
- (C) 綠豆的莖頂向光源彎曲
- (D) 稻禾的芽鞘由基部向上生長

14. 下列物質分解會產生含氮廢物？

- (A) 蔗糖
- (B) 血紅素
- (C) 纖維素
- (D) 三酸甘油酯

15. 下列有關病毒的敘述何者最不正確？

- (A) 病毒不能自行複製
- (B) 病毒的內部沒有胞器
- (C) 病毒不能自行製造蛋白質
- (D) 病毒的外殼不具抗原特性

二、問答題(40%)

1. 氧(O)、硫(S)與硒(Se)是同一族上下相鄰的三個元素，請比較 $H_2O$ 、 $H_2S$ 及 $H_2Se$ 三個分子沸點的高低，並說明您判斷的理由。(10%)

2. 假設有一個化學反應遵守阿瑞尼斯方程式： $k = A \exp(-\frac{E_a}{RT})$ ，其中 $k$ 為速率常數， $A$ 為指數前常數， $\exp$ 為自然指數函數 $\exp(x) = e^x$ 、 $E_a$ 為活化能、 $R$ 為氣體常數、 $T$ 為溫度，則

(1) 若活化能 $E_a > 0$ ，則溫度提高時，反應速率會變快、變慢、還是不變？為什麼？(5%)

(2) 依據阿瑞尼斯方程式，如何進行實驗及處理數據，可以測量活化能 $E_a$ ？(5%)

3. 何謂藍月(blue moon)、血月(Blood Moon)？(10%)

4. 何謂藻礁(calcareous algal reefs)？(10%)

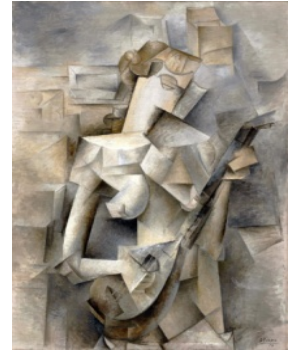
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美術專業試題

一、選擇題（每題 4%，共 100%）

1. 畢卡索(Pablo Picasso)1910 年的作品《彈曼陀林的女孩》(如圖)，其風格形式最適用於下列哪一個派別？

- (A) 初期立體派
- (B) 分析立體派
- (C) 綜合立體派
- (D) 晚期立體派
- (E) 未來立體派



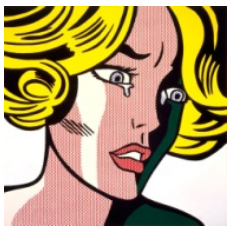
2. 現代主義畫派中將機械、速度、動力帶進作品，是哪一種藝術流派的風格？

- (A) 野獸主義
- (B) 未來主義
- (C) 浪漫主義
- (D) 立體派
- (E) 構成主義

3. 我們繪圖時運用錯覺方式來表現空間事物，這樣作品看起來就很有空間感與遠近感，這種技法稱為？

- (A) 立體派
- (B) 外光派
- (C) 點描法
- (D) 正面性法則
- (E) 透視法

4. 以下哪一件作品不是安迪·沃荷(Andy Warhol)的作品？



(A)



(B)



(C)



(D)



(E)

(背面尚有試題)

5. 有關貝歇夫婦(Bernd Becher)的《12 座水塔》作品(如圖), 以下所述, 何者為非?



- (A) 是歷史建築的平實紀錄  
(B) 召喚了 70、80 年代觀念藝術對分類學的運用  
(C) 影響當代藝術的思想概念  
(D) 通常以不太大的尺寸排成格狀展示  
(E) 強調這些建築結構類型的多樣化與特殊性
6. 一直藉由在國內各大學的影像藝術教學和創作發表, 推展以消音、靜態影像為主, 並結合美術思維的「美術攝影」(Fine Art Photography)創作。早期著重「觀念藝術」式的拍照, 近期則偏向對臺灣當代視覺文化的思維, 以日常顯現的景觀及其文化產物為內容, 持續發表「閱讀臺灣」的系列影像。以上所述是下列哪位攝影家?
- (A) 柯錫杰  
(B) 阮義忠  
(C) 張照堂  
(D) 游本寬  
(E) 莊 靈
7. 有關攝影裝置的特色, 以下所述, 何者為非?
- (A) 大量挪用底層文化現象作為精緻文化的出口  
(B) 可視為藝術對觀念空間的積極追求  
(C) 強調活力與創意呈現的藝術  
(D) 發端於 50 年代的集合藝術與新達達主義  
(E) 80 年代臺灣新文化的代表
8. 電腦繪圖課程中常用的繪圖軟體, 所產生的檔案圖式大致分為哪兩種?
- (A) 向量與點陣  
(B) 填色與線條  
(C) 視窗與指令  
(D) 曲線與幾何圖形  
(E) 漸層與透明



9. 動畫是運用「視覺暫留」的原理，達到動作連續性的畫面，製作時每秒至少須完成幾張畫格？
- (A) 5 張
  - (B) 12 張
  - (C) 15 張
  - (D) 20 張
  - (E) 24 張
10. 中國書學名著《筆勢論十二章》是以下哪位書法家所著？
- (A) 顏真卿
  - (B) 孫過庭
  - (C) 魏夫人
  - (D) 蔡邕
  - (E) 王羲之
11. 在他的作品《秀石疏林圖》自題：「石如飛白木如籀，寫竹還應八法通；若也有人能會此，須知書畫本來同。」的作者是誰？
- (A) 石濤
  - (B) 鄭燮
  - (C) 趙孟頫
  - (D) 黃公望
  - (E) 蘇軾
12. 以下何者是對清朝書法家金農字體風格的描述？
- (A) 創「漆書」，用筆方正，稜角分明
  - (B) 創「六分半書」，以真、隸為主，用筆變化多樣
  - (C) 筆勢連綿流暢，字形奇險
  - (D) 篆書最負盛名，融合篆刻用筆，有金石氣息
  - (E) 其楷書，力厚骨勁，端嚴遒麗
13. 明代董其昌在中國繪畫理論中提出什麼學說？
- (A) 一畫論
  - (B) 南北分宗
  - (C) 外師造化，中得心源
  - (D) 復古說
  - (E) 論畫以形似，見與兒童鄰

(背面尚有試題)

14. 下列何者不是臺灣水墨畫發展脈絡之一？

- (A) 明清文士閩習風格
- (B) 日治東洋寫生風格
- (C) 五月抽象水墨風格
- (D) 八五新潮多元風格
- (E) 鄉土寫實水墨風格

15. 南齊謝赫提出「繪畫六法」，以下何者非其中之一？

- (A) 氣韻生動
- (B) 不求形似
- (C) 骨法用筆
- (D) 隨類賦彩
- (E) 經營位置

16. 臺灣史前時代代表器物，其造形為人型雙手扶腰，頭頂獸類動物（如圖），此類型文物稱為？

- (A) 翠玉白菜
- (B) 肉型石
- (C) 人獸形玉玦
- (D) 龍鳳文玉珮
- (E) 和氏璧



17. 入選 1927 年第一屆「臺灣美術展覽會」東洋畫部，被喻為「臺展三少年」，為林玉山、郭雪湖及哪一位藝術家？

- (A) 呂鐵州
- (B) 許深州
- (C) 蔡媽達
- (D) 陳敬輝
- (E) 陳進

18. 《甘露水》（如圖）入選 1921 年第三回日本帝展，是哪一位藝術家的雕塑作品？

- (A) 黃清呈
- (B) 黃土水
- (C) 陳夏雨
- (D) 蒲添生
- (E) 王水河



19. 《淡水風景》(如圖)2015年經文化部指定為重要古物，是哪一位受難於1947年228事件藝術家的作品？

- (A) 李仲生
- (B) 倪蔣懷
- (C) 陳澄波
- (D) 洪瑞麟
- (E) 顏水龍



20. 在1970年代將以膠為媒劑的繪畫稱為「膠彩畫」，以避免「東洋畫」成為意識形態的爭論，被譽為「臺灣膠彩畫之父」，是哪一位藝術家？

- (A) 林之助
- (B) 陳永森
- (C) 林柏壽
- (D) 李秋禾
- (E) 黃水文

21. 帕森斯(M. J. Parsons)提出美術鑑賞能力具有五個發展階段，若鑑賞者能夠從藝術史觀點作出合理而客觀的美感判斷，我們會判定其屬於下列哪一階段？

- (A) 偏愛
- (B) 美與寫實
- (C) 表現
- (D) 媒材形式風格
- (E) 自律

22. 以下哪一種表色系統(Color System)屬於混色系統(Color Mixing System)？

- (A) 伊登表色系
- (B) 曼賽爾表色系
- (C) CIE 表色系
- (D) 奧斯華德表色系
- (E) PCCS 表色系

23. 在班級中發掘具有特殊藝術才能的學生，可從何種特徵來觀察？
- (A) 自我表達
  - (B) 細節的考慮
  - (C) 描繪能力
  - (D) 故事描述
  - (E) 以上皆是
24. 學校設置公共藝術時，下列何種作法不符合公共藝術的精神？
- (A) 交由藝術家來主導
  - (B) 訪查社區文化
  - (C) 票選活動
  - (D) 參與作品創作
  - (E) 結合藝文課程
25. 公共藝術的發展，展現在臺灣各地方的「社區總體營造」運動，跨過了代議政治，拉回了地方的主體性，建立起社區民眾參與公共事務的可能性，並將藝術的思考與定位，重新拉回到使用者和觀賞者的身上，是下列哪個時期？
- (A) 50 至 60 年代
  - (B) 70 年代
  - (C) 80 年代
  - (D) 90 年代
  - (E) 20 世紀後

國立臺中教育大學 110 學年度教師專業碩士學位學程招生考試

英語專業試題

I. Vocabulary and Grammar (40%; 2% each)

1. When we concentrate on the structure and ordering of components within a sentence, we are studying the \_\_\_\_\_ of a language.  
(A) morphology (B) phonology  
(C) syntax (D) semantics
2. In classrooms, teachers can write \_\_\_\_\_ notes recording their observations of students - behaviors, skills, attitudes, performance, and classroom incidents.  
(A) verifiable (B) anecdotal  
(C) conceal (D) advisory
3. Family members must be involved in the treatment of childhood anxiety disorder, because changes in parenting styles and expectations are necessary to \_\_\_\_\_ the needs of the child.  
(A) foster (B) respond  
(C) cater (D) accommodate
4. Literacy activities occur and are \_\_\_\_\_ purposefully within content areas such as art, music, and science to ensure that meaning is involved.  
(A) ascended (B) detached  
(C) interrelated (D) embedded
5. Language acquisition in an immersion program closely mimics the natural learning curve for a first language, in which a child is constantly prompted to \_\_\_\_\_ new language and meaning from unfamiliar words and expressions.  
(A) assimilate (B) emulate  
(C) reckon (D) facilitate
6. Many of the major supermarket chains have come under fire with \_\_\_\_\_ of various unethical acts over the past decade. They have wasted tons of food, underpaid their suppliers, and contributed to excessive plastic waste in their packaging.  
(A) acclamations (B) accusations  
(C) explication (D) fraudulence

7. The \_\_\_\_\_ represents the knowledge that a speaker has about the vocabulary of his or her language.
- (A) terminology (B) lexicon  
(C) dialect (D) prosody
8. The \_\_\_\_\_ combination of personal responsibility and extreme job restrictions often makes teachers feel powerless.
- (A) euphemistic (B) indignant  
(C) paradoxical (D) justifiable
9. \_\_\_\_\_ the promises of technology to enrich education and remove some of the pressure from teachers, schools have had a hard time integrating it in a meaningful way.
- (A) As a result of (B) Regardless  
(C) Despite (D) Although
10. In \_\_\_\_\_ of school closures as a result of the spread of COVID-19, the first thing that educators are going to focus on is the technology itself.
- (A) anticipation (B) line  
(C) arrangement (D) spite
11. Some researchers claim that the American Academy of Pediatrics' recommendation of a two-hour screen-time limit is an \_\_\_\_\_ concept: actively browsing pages on a computer or tablet is way more brain-stimulating than vegging out in front of the TV.
- (A) proven (B) cogent  
(C) opponent (D) outdated
12. Children are the major \_\_\_\_\_ in every classroom. They ensure nothing is ever the same and mean that a great lesson with one class may be an abject failure with another.
- (A) foundation (B) element  
(C) characteristic (D) variable
13. The concept of grit has become particularly popular in recent discourse and suggests that \_\_\_\_\_ and passion for long-term goals will determine achievement, rather than talent alone.
- (A) capability (B) perseverance  
(C) endowment (D) confidence

14. \_\_\_\_\_ access to digital technologies is becoming an integral part of our business, home, leisure environments, and education.
- (A) Ubiquitous (B) Sparse  
(C) Regional (D) Proportional
15. Critical readers recognize that all texts, \_\_\_\_\_ authoritative they appear, represent a particular view of the world - that of the writer.
- (A) no matter (B) even if  
(C) however (D) still
16. Research has suggested that an effective spoken language program needs to be \_\_\_\_\_ by an understanding of the critical principles of second language development.
- (A) advocated (B) emphasized  
(C) aligned (D) underpinned
17. Message abundancy , \_\_\_\_\_ the same information is given in various ways, increase comprehensibility of input for English language learners.
- (A) which (B) when  
(C) where (D) how
18. Educational games can cross game \_\_\_\_\_ , but have the uniting factor of containing educational content.
- (A) stages (B) theories  
(C) segments (D) genres
19. I agree with you \_\_\_\_\_ to a point, but I am not sure about that last bit.
- (A) up (B) down  
(C) around (D) over
20. Professionals are encouraged to have a lifetime \_\_\_\_\_ to their field of work.
- (A) adjustment (B) sustainment  
(C) commitment (D) inhabitation

## II. Cloze Test (30%; 2% each)

UNHCR, the UN Refugee Agency, is appalled by the escalating violence in Myanmar and the 21 human suffering and displacement this is causing.

We are shocked by the indiscriminate violence against civilians across the country, 22 the renewed fighting between the Myanmar military and ethnic armed groups in some border areas.

These events in Myanmar are driving people to flee 23 the country and across borders.

(背面尚有試題)

We urgently call on countries across the region to offer refuge and protection to all those fleeing for safety. It is vital that anyone crossing the border, seeking asylum in another country, is able to access it.

It is a proven fact that humane border practices can be upheld amid public health and other border control measures, to 24 that people in need of protection can access territory and asylum.

Children, women and men fleeing for their lives should be given 25. They 26 returned to a place where their lives or freedom may be at risk. This principle of non-refoulement is a(n) 27 of international law and is 28 on all states.

Myanmar's neighbours have a decades-long history of providing protection and assistance to refugees. 29 the situation in Myanmar deteriorates further, we call on states to 30 their lifesaving humanitarian tradition of safeguarding the lives of all those forced to flee. (The UN Refugee Agency)

- |                       |                    |                 |                 |
|-----------------------|--------------------|-----------------|-----------------|
| 21. (A) connective    | (B) causative      | (C) resulting   | (D) conceptual  |
| 22. (A) because       | (B) in addition to | (C) for which   | (D) since then  |
| 23. (A) within        | (B) to             | (C) without     | (D) for         |
| 24. (A) assure        | (B) ensure         | (C) insure      | (D) for sure    |
| 25. (A) prevention    | (B) reservation    | (C) portuary    | (D) sanctuary   |
| 26. (A) are afraid of | (B) need to be     | (C) are to be   | (D) must not be |
| 27. (A) violation     | (B) impeachment    | (C) cornerstone | (D) accusation  |
| 28. (A) binding       | (B) missing        | (C) guaranteed  | (D) disputed    |
| 29. (A) However,      | (B) Therefore,     | (C) As          | (D) Not only    |
| 30. (A) negotiate     | (B) withdraw       | (C) withheld    | (D) continue    |

31 the fact that between half and two-thirds of the world's population is bilingual to some degree, a monolingual (or monoglossic) view of bilingualism takes monolingualism as the norm. 32 monolingual English-speakers in countries such as the US and English may consider bilinguals to be an oddity or inferior. Valdés (2015: 39) explains:

*Embedded with the discourse of monolingualism are strong beliefs about (a) the dangers of early bilingualism, (b) the negative effects of 'unbalanced' bilingualism on individuals, and (c) the 33 that the 'true' or 'real' bilingualism will be identical to native speakers in both their languages.*



A monolingual view leads many teachers, administrators and politicians to treat the two languages of a bilingual as separate distinct systems, 34 students are two monolinguals in one. Such a view leads to overly-simplistic notions of languages simply being added or subtracted from the mind of the bilingual. The monolingual view is 35 associated with the language-as-a-problem orientation, leading to education programs that either restrict the use of the home language or to only use it temporarily to transition students as quickly as possible to the dominant school language. (Baker and Wright, 2017)

31. (A) Due to (B) Despite (C) Because of (D) In spite  
32. (A) Surprisingly, (B) Nevertheless, (C) Thus (D) As  
33. (A) expectation (B) doubt (C) criticism (D) probability  
34. (A) even though (B) because (C) as if (D) but  
35. (A) indistinctly (B) remotely (C) hardly (D) closely

### III. Reading Comprehension (30%; 2% each)

It wasn't the first machine on the market. To some people, it's now just part of office furniture. But whichever way you look at it, IBM's personal computer has completely **revolutionized** the way we live, work and play, and a quarter of a century after its **debut**, its power has radically increased in more ways than one. It was 1981, also the year IBM unveiled the 5150, the world's first personal computer for the mainstream consumer. Now, with just 16 kilobytes of memory, the IBM 5150 was obviously limited. Some critics said it wasn't nearly as good as other computers on the market, but the 5150 triggered a wave of excitement. It made the business world sit up and notice that the PC was not just for **geeks**.

36. What is the main topic of this passage?  
(A) The IBM company  
(B) IBM 5150  
(C) The beginning of personal computer  
(D) A computer with small memory
37. According to the passage, which of the following can be inferred?  
(A) IBM 5150 was quite cheap at that time.  
(B) Personal computer started to flourish in 1981.  
(C) Personal computer in the modern world is only part of office furniture.  
(D) 5150 is a lucky number for computers.

38. What does the word **revolutionized** mean in the passage?
- (A) changed radically
  - (B) started suddenly
  - (C) experimented repeatedly
  - (D) functioned badly
39. What does the word **debut** mean in the passage?
- (A) a good soloist
  - (B) a duet performance
  - (C) first public appearance
  - (D) a heavy ending
40. What does the word **geeks** mean in the passage?
- (A) nerds who like to read
  - (B) geese for meals
  - (C) crazy freaks
  - (D) those who are good at computers

Nepal remains in the grip of a nine-year insurgency battle between its government and Maoist **rebels**. Thousands of lives have been lost in the conflict, but the most heart-wrenching victims are often children being used as pawns.

Rebel territory, western Nepal, is one of the most remote regions on earth. We came here to meet the insurgents who are fighting to topple the government of the Himalayan kingdom. Soon there are no roads, no bridges. The only way to cross this river to enter the rebel heartland is this box, suspended from a cable, the bridge blown up a long time ago in the fighting.

Here we were approached by a girl in her school uniform. It quickly becomes clear she and two friends have been hiding in the jungle since the previous day from the rebels, they say, notorious for abducting children to become insurgents.

For the past 10 years, these Maoist rebels, among the last in the world, have been fighting to overthrow the monarchy here and establish a socialist state. More than 12,000 people have died in the fighting, but even more disturbing are the children targeted by both sides, according to human rights group --- thousands of them, by some estimates, abducted, tortured, and killed. The government says the rebels kidnap children to recruit and indoctrinate.

The rebels deny it, calling it slanders spread by the government, but the story of these children says otherwise. She is 16 and scared, Ganga says she thought the rebels would kill her. She worries her parents don't know where she is. She herself doesn't know where she is. They have no money and no food. They stay the night at the

villager's house. Khum is 15. He says that rebels beat students at his school with sticks and stones when some try to escape. Shobba says she worries about her exams, and worries that rebels will kill her.

The children are in desperate need for help. We abandon our plans to try and meet the rebels to try to get the children home.

We suspect there may be some rebels among the villagers here who might want to take the kids away. That's why we have to get out of here very quickly, and this is how we are going to do it.

But we may have already been too late. The woman in pink acts in a suspicious way, leading us to think she may be a rebel. She appeared from nowhere and has already been in deep conversation with the children, and tried to convince them to go with her. She claims to be a cousin and says she will take them home through a shortcut in the rebel territory. Out of hope or more likely out of fear, Shobha and Khum decide to go with her. But Ganga joins us in the precarious journey to safety across the river, where the government is in control. Here at the roadside café, Ganga has her first food in two days. We put her on a bus for home, a two-hour drive and then two more hours' walk. It's been a terrible ordeal for Ganga and she's far from alone. Increasingly on the battlefield in Nepal between the government and the rebels are this  
c o u n t r y ' s c h i l d r e n .

41. Which country is Himalayan kingdom?
  - (A) India
  - (B) Nepal
  - (C) China
  - (D) Bangladesh
42. Who are the two parties remaining a nine-year insurgency battle in Nepal?
  - (A) Chinese and Nepalese
  - (B) Himalayans and Chinese
  - (C) The rebels and the children soldiers
  - (D) The Nepalese government and the Maoist rebels
43. What does **rebels** mean in the above passage?
  - (A) insurgents
  - (B) government soldiers
  - (C) foreign soldiers
  - (D) children soldiers
44. According to the passage, what is the first concern of the author?
  - (A) passing the rebel territory
  - (B) meeting the government

(C) trying to get the children home

(D) meeting the rebels

(背面尚有試題)

45. According to the above passage, what have the Maoist rebels fought for in the past 10 years?

(A) Overthrowing the Nepalese monarchy and establishing a socialist state

(B) Abducting Nepalese children

(C) Robbing the villagers' food and money

(D) Isolating themselves in the rebel territory

46. According to the above passage, who are actually increasing on the battlefield in Nepal between the government and the rebels?

(A) the soldiers

(B) the rebels

(C) this country's children

(D) the villagers

One very special type of accommodation is the underwater hotel. Probably the best-known example is the Jules Undersea Lodge off Key Largo, Florida. A former research facility, the lodge has two bedrooms and a common room. Elsewhere in the world, several other underwater projects are being built. One is the Poseidon Undersea Resort, which will rest on the floor of a lagoon in Fiji. An elevator will transport guests to the **plush** suites below the surface. An even bigger underwater hotel is being built in Dubai. Named Hydropolis, this facility will have 220 suites and will charge US\$ 5,000 a night.

For a really odd adventure, visitors can stay in the Hamster Hotel in Nantes, France. In the cage-like rooms, guests run in a giant wheel, eat seeds, and sleep in a bed of hay. If they so choose, people can even dress up in a hamster costume. This experience costs about US\$ 150 per night.

The uniqueness of hotels puts them in a special category known as destination hotels. That is, people decide to visit a location because of the hotel itself. The popularity of such destination hotels is a sign that many travelers are truly searching for something different.

47. What is the best title for the above passage?

(A) Underwater Hotels

(B) Hamster Hotels

(C) Destination Hotels

(D) Accommodation Hotels

48. According to the above passage, which one in the following answers is **NOT** an underwater hotel?
- (A) Hydropolis
  - (B) Hamster Hotel
  - (C) The Jules Undersea Lodge
  - (D) The Poseidon Undersea Resort
49. According to the above passage, which hotel is located in France?
- (A) Hydropolis
  - (B) Hamster Hotel
  - (C) The Jules Undersea Lodge
  - (D) The Poseidon Undersea Resort
50. What does **plush** mean in the above passage?
- (A) pulling
  - (B) pushing
  - (C) blanket-like
  - (D) luxurious



#### 四、分析題(18%)

請分析以下譜例，並在作答區上標明題號回答問題。

1. 作品為何種曲式(註明段落與其小節數)? (4%)
2. 分析下譜例第 12 至 36 小節的調性與和絃。(8%)
3. 請詳述本曲作品的時代風格?(2%)與推測的原因。(4%)

譜例 181:

Andante.

The musical score consists of six systems of music, each with a treble and bass clef. The first system starts with a piano (*p*) dynamic. The second system is marked with a circled 7. The third system is marked with a circled 13. The fourth system is marked with a circled 19 and includes dynamics *cresc.*, *f*, *p*, and another *cresc.*. The fifth system is marked with a circled 26 and includes a triplet marking. The sixth system is marked with a circled 31. The piece concludes with a double bar line and a key signature change to four flats (B-flat, E-flat, A-flat, D-flat).

五、問答題(35%)

1. 請簡述 STEAM(Science, Technology, Engineering, Art, and Mathematics)教育的意涵，並說明音樂(Art / 藝術美感)在 STEAM 教育中所扮演的功能。(8%)
2. 十二年國民基本教育課程藝術領域重視跨領域 / 跨學科的學習，音樂教師依據課程目標，選擇跨領域 / 科目可以和美感元素、美感形式連結的構件發展應用，例如創作表現、鑑賞與實踐等藝術活動。請以音樂教學為主，與表演藝術進行跨學科的學習，以美感形式(對比、漸層)為課程的核心概念，設計 40 分鐘一節國小四年級跨科目的學習。教學活動設計須包含學習目標、學習活動、學習評量。(20%)
3. 倘若學校邀請你(妳)協助學校評選國民小學藝術領域教科書，請說明評選的標準與理由。(7%)

(背面為作答區)













國立臺中教育大學 110 學年度教師專業碩士學位學程招生考試

原住民文化與教育試題

- 一、請從文化整體的角度，詳述原住民族文化應包含哪些內涵？(15%)又若要學習原住民族文化，為什麼應回到各原住民族的部落，請說明其中之道理？(10%)
- 二、試闡述當前國民中小學階段原住民族教育推動的困境與因應策略。(25%)
- 三、請分別對於「原住民學生升學加分政策」正、反觀點進行分析，並論述你自己的看法為何？(15%)你若身為一位教師，面對反對「原住民學生升學加分政策」的學生或家長，有何因應策略？(10%)
- 四、Banks 從課程架構改變情形，提出一套多元文化課程發展模式，包括四種模式：1. 貢獻模式，將弱勢團體的英雄、節日加入主流課程中；2. 附加模式，不改變既有課程，以一個單元、一堂課方式將族群文化、主題納入主流課程中；3. 轉型模式，改變課程結構、本質假設，從不同團體的觀點探究概念和事件；4. 社會行動模式，進一步針對社會問題做出決定，採取社會行動。請你選定其中一種模式舉一個實例（原住民族文化）說明，並說明採用該種模式的優點及缺點。(25%)

國立臺中教育大學 110 學年度教師專業碩士學位學程招生考試  
資訊專業試題

一、選擇題（每題 2%，共 40%）

1. 下列何者為串流加密法(stream cipher)？
  - (A) RC5
  - (B) AES
  - (C) RSA
  - (D) ChaCha20
  - (E) DES
2. 安全雜湊演算法 SHA-256 之輸出摘要（雜湊值）長度為\_\_\_\_\_位元？
  - (A) 128
  - (B) 160
  - (C) 192
  - (D) 256
  - (E) 512
3. 要產生一個訊息的數位簽章(digital signature)，簽章者須使用以下哪一支金鑰？
  - (A) 簽章者的公開金鑰
  - (B) 簽章者的私密金鑰
  - (C) 驗證者的公開金鑰
  - (D) 驗證者的私密金鑰
  - (E) 簽章者與驗證者共享的機密金鑰
4. Diffie-Hellman(DH)演算法屬於下列哪一種演算法？
  - (A) 金鑰交換演算法
  - (B) 數位簽章演算法
  - (C) 加密演算法
  - (D) 訊息認證演算法
  - (E) 雜湊演算法
5. 下列何者是安全協定 Transport Layer Security(TLS)運作中的最新版本？
  - (A) TLS 1.1
  - (B) TLS 1.2
  - (C) TLS 1.3
  - (D) TLS 1.4
  - (E) TLS 1.5

（背面尚有試題）

6. 在 C++ 中，當類別(class)的成員函數(member function)中定義變數，則該變數具有何種範圍(scope)？
- (A) 廣域範圍(Global Scope)
  - (B) 命名空間範圍(Namespace Scope)
  - (C) 類別範圍(Class Scope)
  - (D) 區域範圍(Local Scope)
  - (E) 以上皆非
7. 關於 C++ 中對於繼承的說明，下面何者有誤？
- (A) 通常基礎類別(base class)比衍生類別(derived class)更具體
  - (B) 一個衍生類別(derived class)可以成為其他衍生類別(derived class)的基礎類別(base class)
  - (C) 一個衍生類別(derived class)可以有多个基礎類別(base class)
  - (D) 一個衍生類別(derived class)可以比它的基礎類別(base class)包含更多的屬性和行為
  - (E) 以上皆正確
8. 一個成員函數(member function)，如果不允許修改它所調用的對象，則在其參數列表的右邊將註明何種敘述？
- (A) final
  - (B) const
  - (C) firm
  - (D) immutable
  - (E) static
9. 在 C 語言，下列何者變數宣告之變數範圍只能在 0~65535 範圍內？
- (A) char
  - (B) unsigned int
  - (C) int
  - (D) unsigned short int
  - (E) short int
10. 在 C 運算式中，當  $x=1, y=9$  時，以  $\text{int } n = x + \text{rand}() \% y$  取用亂數時，以下敘述何者正確？
- (A) y 是移位值(shift value)
  - (B) x 是縮放因子(scaling factor)
  - (C) n 為介於 1~9 的任一整數
  - (D) n 為介於 0~9 的任一整數
  - (E) 以上皆非



11. 在 C 運算式中，以下哪一個運算式的值與其他運算式的值不同？
- (A) \*ptr
  - (B) \*&ptr
  - (C) &\*ptr
  - (D) ptr
  - (E) 以上運算式的值均相同
12. 在下列 C 運算式中，何者能得到陣列 int x[20] 中的元素數量？
- (A) sizeof(x)
  - (B) sizeof(\*x)
  - (C) sizeof(x[0])
  - (D) sizeof(x)/sizeof(x[0])
  - (E) 以上皆非
13. 假設 a 是一個陣列，aPtr 是該陣列的指標，下列何者運算式可得到陣列中 n 元素的記憶體位址？
- (A) \*(aPtr + n)
  - (B) &a[n]
  - (C) aPtr[n]
  - (D) \*(a + n)
  - (E) 以上皆非
14. 下列何者 C 運算式相當於運算式 pvar->x。
- (A) (\*pvar).x
  - (B) pvar.x
  - (C) \*pvar.x
  - (D) \*pvar.(x)
  - (E) 以上皆非
15. 假設 Bit1=0、Bit2=1，下列哪項結果與其他結果不一樣？
- (A) Bit1 & Bit2
  - (B) ~(Bit1 | Bit2)
  - (C) ~(Bit1^Bit2)
  - (D) ~(~Bit0)
  - (E) 以上結果皆相同

16. 在 C++ 語言，以下哪個不是隸屬於 ostream 類別？

- (A) cin
- (B) cout
- (C) cerr
- (D) clog
- (E) 以上皆是

17. 當執行  $(00001000 | 11000101) ^ (11010100 \gg 2)$  結果為何？

- (A) 00111101
- (B) 00110101
- (C) 00000111
- (D) 11111000
- (E) 以上皆非

18. 當執行函數 myfun(5)，將返回的值為何？

```
int myfun(int n) {  
    if(n<=1) { return n; }  
    else{ return n * myfun(n - 1); }  
}
```

- (A) 720
- (B) 120
- (C) 24
- (D) 6
- (E) 0

19. 以下 C++ 敘述句將輸出什麼？

```
double x{1.23456789};  
std::cout << std::setprecision(5) << x << '\n';  
std::cout << std::setfill('0') << std::setw(8) << x << '\n';
```

- (A) 1.2345  
001.2345
- (B) 1.23457  
001.23457
- (C) 1.2346  
001.2346
- (D) 1.234568  
001.234568
- (E) 以上皆非

20. C++多型(Polymorphism)可通過以下何種方式實現？

- (A) 成員函數(member function)和編譯時期繫結(compiling time binding)
- (B) 虛擬函數(virtual function)和動態繫結(dynamic binding)
- (C) 非虛擬函數(non-virtual function)和早期繫結(early binding)
- (D) 夥伴函數(friend function)和靜態繫結(static binding)
- (E) 以上皆非

## 二、問答題(60%)

1. 電腦系統的記憶體階層，包括(a) Hard Disk (b) Main Memory (c) DVD (d) Register (e) Cache 等記憶體。

- (1) 依速度快慢排列，由快到慢排列，順序為何？(5%)
- (2) 依容量大小排列，由大到小排列，順序為何？(5%)

2. 電腦網路依其範圍大小，可分為(a) PAN (b) WAN (c) LAN 等。

- (1) 這些縮寫（即 PAN、WAN、LAN）的英文全名為何？(4%)
- (2) 依其範圍大小排列，由大到小排列，順序為何？(2%)
- (3) 各舉一應用實例。(4%)

3. 有關電腦網路的 Protocol Stack

- (1) 請畫出 ISO 所提出的 OSI Model 七層架構。(6%)
- (2) Routing 是哪一層負責的功能？(2%)
- (3) Addressing 是哪一層負責的功能？(2%)

4. 假設 $x_1$ 、 $x_2$ 、 $x_3$ 、 $x_4$ 均為非負整數(nonnegative integers)且 $x_4 \geq 3$ ，請問方程式 $x_1 + x_2 + x_3 + x_4 = 18$ 總共有幾組解？(10%)

5. 請回答下列問題：

- (1) 請將中序(infix)表示的運算式「 $A - B / C + D \times E - F$ 」轉換為後序(postfix)表示式。(5%)
- (2) 令  $p$  與  $q$  代表命題(propositions)，請以真值表(truth table) 判斷邏輯敘述「 $(p \vee q) \rightarrow (p \oplus q)$ 」是否恆為真(true)？(5%)

(背面尚有試題)

6. 假設函數 fun 被定義如下：

```
int fun(int*x) {  
    *x += 10;  
    return *x;  
}
```

假設在 main() 中使用 fun 如下。

```
void main() {  
    int y = 5;  
    y = (y * 2) + fun(&y);  
}
```

- (1) 當運算式從左至右(left to right)計算時，執行 main()之後 y 值為多少？(5%)
- (2) 當運算式從右至左(right to left)計算時，執行 main()之後 y 值為多少？(5%)