

I. Please choose the fittest answer to complete the sentence in each question. (60%)

1. () Do you think ____ is easier than to act?
(A) talking (B) about to talk (C) of taking (D) to talk
2. () I am not sure of ____ the table.
(A) where putting (B) where being put (C) where to put (D) where to be put
3. () Here almost everyone has a lap-top, ____ a mobile.
(A) to say nothing of (B) not to speak (C) to speak nothing of (D) no more to say
4. () Maria studies harder than ____ at that corner.
(A) the boy who seated (B) the boy is seated (C) is the boy seated (D) does the boy seat
5. () They seemed ____ for hours when we met them yesterday.
(A) that they had walked (B) that they walked (C) to have walked (D) as if had walked
6. () He is ____ young ____ school.
(A) too, for go to (B) so, to go to (C) too, to go to (D) too, to going to
7. () He is given to pleasure = He does nothing but ____ pleasure.
(A) pursue (B) to pursue (C) deny (D) denying
8. () All the spectators desired nothing but ____ an exciting game.
(A) there being (B) there be (C) there is (D) there to be
9. () Flattery cannot help ____ your end.
(A) to gaining (B) gain (C) gaining (D) for gaining
10. () This plan is sure ____.
(A) to fail (B) of failing (C) of failure (D) to be failed
11. () Any ____ person may apply for this position.
(A) interest (B) interesting (C) interested (D) interests
12. () I am tired of eating ____.
(A) freezing meat (B) boiling egg (C) can fish (D) fried potatoes
13. () The watch ____ to May is very expensive.
(A) which is belonged (B) belonging (C) belonged (D) belongs
14. () There stood a lime tree ____ with apples fresh and wet with dew.
(A) to load (B) loading (C) being loaded (D) loaded
15. () They returned ____.
(A) to defeat (B) to defeating (C) defeating (D) defeated
16. () The accused ____ of trespassing on privacy.
(A) stood accused (B) to stand accused (C) stood accusing (D) of standing accusing
17. () She seemed ____ at my question.
(A) annoy (B) annoying (C) to annoy (D) annoyed
18. () I saw the key ____ here this morning.
(A) laying (B) laid (C) lain (D) having laid
19. () As he entered the room, he found many books ____ scattered on the floor.
(A) laying (B) to lay (C) lying (D) lie
20. () A thief slipped in ____ and caught on the very spot.
(A) observing (B) observed (C) unobserving (D) unobserved
21. () ____ being a fine day last Sunday, we went mountain climbing.
(A) For (B) It (C) As (D) The weather

22. () Everyone ____, the dinner began.
(A) was seated (B) seated (C) were seated (D) sat
23. () Ginna plays tennis so well that, ____ the proper training, she may well become a creditable professional.
(A) give (B) she is given (C) giving (D) given
24. () My shoes ____ worn out, I had to buy a new pair.
(A) was (B) has been (C) having (D) being
25. () As a desert is like a sea, ____ a camel like a ship.
(a) and the same as (B) so does (C) so that (D) so is
26. () I know a better doctor than does Sam.
(A) The doctor I know is better than Sam
(B) Sam knows a doctor who is better than I am
(C) Sam knows a doctor who is better than himself
(D) The doctor I know is better than the doctor Sam knows
27. () We could hardly help our tears.
(A) If we could help it, we would not burst out laughing
(B) We were not in a position to shed tears
(C) We shed tears in spite of ourselves
(D) We helped ourselves to tears
28. () He cannot speak English, not to mention German.
(A) He can speak either English or German
(B) He can speak neither English nor German
(C) He can speak both English and German
(D) He can speak not English but German
29. () She is a graduate student, but her scholarship is not good enough, not to speak of practical experience.
(A) For all her scanty scholarship, she is a good mixer
(B) She is fresh from school
(C) Her practical experience is nothing to speak of
(D) We do not have the slightest idea of her practical experience
30. () Our business is too great a success not to excite envy in the rivals.
(A) The rivals will be pleased to hear our exciting success
(B) Our successful business will leave the rivals cold
(C) The rivals will think lightly of our success in business
(D) The rivals are sure to be jealous of our success

II. Please choose the most appropriate answer from the word bank for each blank in the essay.
(20%)

[Word Bank .]

(1) a very unequal business (2) brain drain (3) ethical recruitment policies (4) global health budget (5) key (6) lack (7) shortages (8) stark (9) struggling to cope (10) train more staff

The statistics in the World Health report are (31). The continents of North and South America have just ten per cent of the world's burden of disease but thirty-seven per cent of the world's health workers, and spend over fifty per cent of the total (32). The continent of Africa has twenty-four per cent of the world's disease, just three per cent of the world's health workers and less than one per cent of the budget.

Access to health care is (33). Of the fifty-seven countries which (34) health workers, thirty-six of them are in sub-Saharan Africa, the very same countries which are (35) with the AIDS epidemic.

The World Health Organization says the (36) are undermining not just the battle against deadly diseases like AIDS, tuberculosis and malaria; they're affecting childhood vaccination campaigns and basic care for pregnant women.

The reasons for the shortages are many, but money is (37). Rich countries need more doctors and nurses too, and salaries are higher than in Africa. The WHO says developing countries are suffering a (38) of health professionals.

The report calls for (39) for migrant health workers and international investment to help poor countries (40) because at the moment the world is short of four-million health workers and one-point-three-billion people lack even the most basic health care.

III. Composition: write about the work of the world, the people who do it, and things that are worth doing well (20%).

一、單選題 (每題 1.5 分, 共 75 分)

1. 我國現場安全管理工作依法為下列何者的責任? (1) 安全衛生業務主管 (2) 雇主 (3) 安全管理師 (4) 不太確定。
2. 今有 220 V (伏特), 20 A (安培) 的電流, 他的電阻 R 為多少 (歐姆) (1) 10 (2) 11 (3) 440 (4) 4400。
3. 同上題, 此系統在 1 分鐘內要生成多少焦耳(J) 的熱量? (1) 264 (2) 13200 (3) 132000 (4) 264000
4. 依據勞工退休金條例第十四條規定: 雇主每月負擔的「勞工退休金提繳率」, 不得低於勞工每月工資百分之幾? (1) 2 (2) 4 (3) 6 (4) 8
5. 小型鍋爐, 係指鍋爐未達危險性設備之容量而合於最高使用壓力 (表壓力) 在每平方公分多少公斤以下, 且傳熱面積在一平方公尺以下之蒸汽鍋? (1) 10 (2) 1.0 (3) 2.0 (4) 5.0。
6. 分析災害原因時, 下列何者係屬直接原因 (1) 高壓電 (2) 警報系統不良 (3) 未使用個人防護具 (4) 無漏電斷路系統
7. 危害物質標示圖中象徵符號為骷顱頭與兩根交叉方腿骨者為下列何物質? (1) 易燃氣體 (2) 禁水性物質 (3) 腐蝕性物質 (4) 毒性物質。
8. 一般而言, 白指症 (white-finger syndrome) 主要是因下列何種因素而致病? (1) 振動 (2) 噪音 (3) 游離輻射 (4) 異常氣壓。
9. 下列那一種選樣方式, 其抽樣單位為群體 (1) 集束取樣 (2) 系統取樣 (3) 分層取樣 (4) 簡單隨機取樣
10. 下列那一種選樣方式, 其選樣架構如含有週期變化的排列, 則易出現選樣誤差 (1) 集束取樣 (2) 系統取樣 (3) 分層取樣 (4) 簡單隨機取樣
11. 乳癌患者手術切除罹病的乳房屬於 (1) 促進健康 (2) 特殊保護 (3) 限制殘障 (4) 復健。
12. 因果時序性亦辨明的研究方法 (1) 橫斷研究法 (2) 病例對照研究法 (3) 世代研究法 (4) 生態研究法

假設在某一個社區中攝護腺癌的盛行率為 10% 現在打算以攝護腺特異病原 (prostate specific antigen, PSA) 檢驗法檢查社區 1000 名 60 歲以上的老人是否有攝護腺癌。檢查結果跟病理切片比較發現真陽性者有 70 名, 假陽性者有 90 名。請回答下列問題? (第 13~16 題)

13. 計算 PSA 檢驗法的敏感度 (sensitivity) (1) 43.8% (2) 70% (3) 90% (4) 96.4%
14. 計算 PSA 檢驗法的精確度 (specificity) (1) 43.8% (2) 70% (3) 90% (4) 96.4%
15. 計算 PSA 檢驗法的陽性預測值 (positive predictive value) (1) 43.8% (2) 70% (3) 90% (4) 96.4%
16. 計算 PSA 檢驗法的陰性預測值 (negative predictive value) (1) 43.8% (2) 70% (3) 90% (4) 96.4%
17. 在設計條件下, 當意外發生時, 會使作業中斷以減少或控制任何可能會導致更嚴重的失誤或災害, 此為下列何種防護方法 (1) 弱連結 (Weak Links) (2) 互護系統 (Buddy System) (3) 警告 (Warning) (4) 偵測 (Detection)
18. 使可燃性氣體完全燃燒所需之氧氣量, 稱之為理論氧量, 故每一公斤氫氣約需幾公斤之氧氣供應? (1) 1/2 (2) 1 (3) 4 (4) 8
19. 下列有關游離輻射之敘述何者錯誤 (1) 能使物質產生游離現象之輻射能稱為游離輻射 (2) 在工業上常使用者為 α 、 β 、 γ 、X 射線及中子射線等, 多用於破壞性檢測 (3) 游離輻射對人體主要危害器官為造血器官 (4) 長期低劑量游離輻射暴露可能造成細胞染色體突變或致癌。
20. 製備危害物質清單之目的為瞭解事業單位危害物質之種類、場所、數量、使用及下列何者資料? (1) 危害物質之物理、化學性 (2) 急救方法 (3) 緊急應變程序 (4) 貯存
21. 勞工應職業災害而致死亡, 除了喪葬津貼五個月之外, 雇主應依勞動基準法規定給予罹災者遺屬幾個月平均工資之死亡補償 (1) 5 (2) 15 (3) 40 (4) 50
22. 承上題, 遺屬津貼請領之第一順位為 (1) 祖父母親 (2) 父母親 (3) 配偶及子女 (4) 兄弟姊妹
23. 穿戴防護衣或裝備, 以防止環境危害所造成之傷害, 危害消除之控制型態屬下列何者 (1) 抑制 (2) 稀釋 (3) 隔離 (4) 連續

24. 下列何者屬於系統安全危害辨識的定量方法 (1)失誤模式與影響分析 (FMEA) (2) 初步危害分析 (PHA) (3) 事件樹分析 (ETA) (4) 危害及可操作性分析 (HAZOPS)
25. 某次作業環境測定，採集甲苯(MW= 92)樣本 5 L (NTP)，分析結果前段為 1.5 mg，後段為 0.05 mg，則空氣中甲苯之濃度於 1 atm, 25 °C 為多少 ppm (1)屬無效樣本 (2) 5.83 (3) 79.7 (4) 82.4
26. 我國配階段法令並未規範下列那一種粉塵濃度？(1) 厭惡性粉塵 (2)總粉塵 (3) 可呼吸性粉塵 (4) 可吸入性粉塵
27. 一特定粉塵發生源之特定粉塵作業時間短暫，係指每日作業至少不超過多少小時者(1)一 (2)二 (3)三 (4)四。
28. 下列何者為畸胎發生的最主要時期 (1) 胚胎形成期 (2) 器官形成期 (3) 組機形成期 (4) 功能形成期。
29. 下列何者是造成海豹兒症的毒物 (1) 沙利竇邁 (2) 多氯聯苯 (3) 輻射線 (4) 戴奧辛。
30. 採集某化合物之最大採樣量為 15 公升，採樣泵流率為 200mL/min，欲進行八小時多樣本連續採樣則最少之樣本數為多少個？ (1)5 (2)6 (3)7 (4)8。
31. 鉛之八小時日時量平均容許濃度為 0.1 mg/m³，其短時間時量平均容許濃度為多少 mg/m³? (1) 0.1 (2) 0.2 (3) 0.3 (4) 0.4
32. 依法律規訂，噪音在多少分貝以上之作業為特別危害健康作業(1) 80 (2) 85 (3) 90 (4) 95
33. 設一室內場所，其黑球溫度為 32°C，乾球溫度為 30°C，自然濕球溫度為 28°C，則其 WBGT 為多少 (1) 28.6 (2) 29°C (3) 29.2°C (4) 30°C
34. 勞工安全衛生設施規則規定雇主對勞工經常作業之室內作業場所，除設備及自地面算起高度超過 4 公尺以上之空間不計外，每一勞工原則上應有多少立方公尺以上之空間(1) 4 (2) 6 (3) 8 (4) 10。
35. 一點音源自四面八方均勻輻射至半徑二公尺之球面上測得音強度級為 79dB，求音源之音功率級約為 (1) 92 (2) 96 (3) 97 (4) 98 dB
36. 下列何者有機溶劑之毒性較大 (1)第一種有機溶劑 (2) 第二種有機溶劑 (3) 第三種有機溶劑(4) 第三種有機溶劑混存物
37. 藉動力吸引排出已發散之有機溶劑蒸氣之設備係指何者裝置 (1) 密閉設備 (2) 局部排氣裝置 (3) 整體換氣裝置 (4) 空氣調節裝置
38. 被動式劑量計係依據下列何者原理補集空氣中有害物 (1)Henry's Law (2) Beer's Law (3) Fick's Law (4) Arrhenius Law
39. 下列何者的總表面積最大 (1) 肺泡 (2) 皮膚 (3) 腸壁 (4) 腎臟
40. 肌肉骨骼傷害主要為下列何種危害因子所引起 (1) 化學性 (2) 物理性 (3) 生物性 (4) 人因工程
41. 下列何者游離輻射之穿透力最強 (1) α粒子 (2) β粒子 (3) γ射線 (4) 中子
42. 台灣近二十年來之勞工保險職業病給付最多者為下列何者？(1)噪音 (2)塵肺症(3)有機溶劑中毒 (4)一氧化碳中毒
43. 進入含氯氣 3%之室內作業場所，應配戴下列何種呼吸防護具？(1)有機溶劑吸收罐防毒面具 (2) 防塵用呼吸防護具(3)供氣式呼吸防護具 (4)酸性氣體呼吸防護具
44. 空氣污染物之濃度：ppm 之意義為下列何者？(1)NTP(25°C, 1atm)下每公克空氣中氣狀有害物之毫克數 (2) 4°C 每公升水中有害物之毫克數(3) 4°C 每公升水中有害物之毫升數(4) NTP(25°C, 1atm)下每立方公尺空氣中氣狀有害物之立方公分數
45. 勞工作業環境空氣中有害物容許濃度標準附表中符號欄，何者註記表示物質經證實或疑似對人類會引起腫瘤之物質？(1)癌 (2)皮(3)高 (4)瘤
46. The usual dosage unit that incorporates the amount of material administered or absorbed in accordance with the size of the individual over a period of time is: (1) PPM/hour (2) mg/kg/day (3) kg/100 lb/week
47. A fire which the gasoline is involved is classified as a (1) Class A (2) Class B. (3) Class C (4) Class D.
48. The LD50 represents (1) The effect level resulting from a threshold dose of 50 mg. (2) The point at which the liver is 50% destroyed. (3) The estimated dose level that will produce 50% deaths in groups of animals administered a specific dose. (4) Light dark 50%.

49. Which part of the skin is the most protective barrier to prevent outside chemical entering human body.
 (1) dermis (2) epidermis (3) hair follicles (4) blood vessels.
50. The process whereby a normal body cell becomes a cancer cell is known as: (1) acute toxicity (2) teratogenicity (3) carcinogenicity (4) nephrotoxicity

請將選擇題答案依「下列之格式」填於答案卷上

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.
41.	42.	43.	44.	45.	46.	47.	48.	49.	50.										

二、問答題 (共 25 分) 請於答案卷上作答!

1. 台鐵於 2006 年 3 月發生的自強號列車撞死五名施工工人意外，試說明造成此次意外的直接原因，間接原因，與基本原因，與雇主可能受到的罰則？ 15%

2. What is "Healthy worker effect"? 5%

3. What is "the fate of xenobiotics entering human body"? 5%