＊下列題目請在試卷內的「非選擇題作答區」作答。

一、解釋名詞 (20 %)

1. Taxon
2. Herbarium
3. Nomemclature Priority
4. Holotype
5. Natural classification
6. Monoadelphous flowers
7. Monoecious plants
8. Monophyletc group
9. Allopatric speciation
10. Anthesis

二、舉出下列裸子植物最主要之分辨特徵（10 %）：

1. Taxaceae 紅豆杉科
2. Pinaceae 松科
3. Ginkgoaceae 銀杏科
4. Cycadaceae 蘇鐵科
5. Cupressaceae 柏科

三、配合題 (5%)

①	Trees; stipules present, surrounding the terminal bud. Flowers solitary. Tepals 6 to numerous, distinct. Stamens numerous, distinct; carpels usually numerous, distinct, on an elongate receptacle.	1. Nymphaeaceae 睡蓮科
②	Trees or shrubs, aromatic; anthers opening by 2 or 4 uplifting valves.	2. Aristolochiaceae 馬兜鈴科
③	Mostly herbs. Perianth differentiated into calyx and corolla. Flower usually with spirally arranged, numerous stamens and carpels.	3. Ranunculaceae 毛茛科
④	Aquatic. Leaves with blade submerged or floating. Flowers solitary, with a long pedicel and usually floating or raised above the surface of the water. Sepals 4 or 6, often petal-like. Petals 8 to numerous.	4. Magnoliaceae 木蘭科
⑤	Herbs or lianas. Sepals 3, connate, often bilateral, tubular, and S-shaped or pipe-shaped, showy. Petals usually lacking.	5. Lauraceae 樟科

四、配合題 (5%)

①	Herbs or vines; nodes often swollen; often with oxalic acid. Stipules present and connate into an often thin sheath (ocrea) around the stem	1. Euphorbiaceae 大戟科
②	Trees, shrubs, herbs often with laticifers. Flowers unisexual. Carpels usually 3, connate; ovary superior, usually 3-lobed.	2. Caryophyllaceae 石竹科
③	Leaves deciduous. Inflorescences erect to pendent catkins. Flowers unisexual, subtended by a usually hairy bract. Petals lacking. Seeds with basal tuft of hairs.	3. Polygonaceae 蓼科
④	Flowers often showy, with a hypanthium ranging from flat to cup-shaped or cylindrical. Stamens usually numerous; carpels 1 to many, distinct or connate, sometimes adnate to hypanthium.	4. Salicaceae 楊柳科
⑤	Herbs. Leaves opposite. Sepals 4-5, free or united into a tube. Petals 4-5, apex bilobed or deeply cut. Ovary superior, with free-central placentation.	5. Rosaceae 薔薇科

接背面

五、配合題 (5%)

①	Leaves usually pinnately compound. Staminate inflorescence usually a catkin.	1. Aceraceae 楓樹科
②	Trees or shrubs. Inflorescences often spicate, a catkin, or headlike cluster. Flowers unisexual; ovary inferior. Fruit a nut, closely associated with a spiny to scaly cupule.	2. Cruciferae 十字花科
③	Trees or shrubs, with secretory cavities (pellucid dots) containing aromatic ethereal oils. Ovary superior, usually with axile placentation.	3. Rutaceae 芸香科
④	Trees. Leaves opposite, usually with palmate venation. Fruit a winged schizocarp.	4. Fagaceae 殼斗科
⑤	Coralla of 4 distinct petals, Stamens 6, tetradynamous.	5. Juglandaceae 胡桃科

六、配合題 (5%)

①	Leaves opposite or whorled; stipules present, interpetiolar. Petals connate; ovary inferior.	1. Asteraceae 菊科
②	Leaves usually opposite. Petals usually 4. Stamens 2; filaments adnate to corolla.	2. Lamiaceae 唇形花科
③	Leaves usually opposite, aromatic. Petals usually 2-lipped. Stamens 4, didynamous to equal. Ovary superior, unlobed to deeply 4-lobed; style terminal to gynobasic.	3. Orobanchaceae 列當科
④	Flowers densely aggregated into heads. Petals 5, connate, forming disk flower, ray flower or ligulate flower. Fruit an achene.	4. Rubiaceae 茜草科
⑤	Herbs; hemiparasitic to holoparasitic, with haustorialconnections to the roots of host plants. Leaves sometimes reduced to scales. Petals usually 5, connate, the corolla 2-lipped.	5. Oleaceae 木犀科

七、配合題 (10%)

①	Inflorescences forming a spike of numerous small flowers packed onto a fleshy axis (a spadix), which is subtended by a large leaflike to petal-like bract (a spathe)	1. Alismataceae 澤瀉科
②	Herbs usually with bulbs. Tepals 6, distinct, petaloid. Stamens 6; filaments distinct. Ovary superior.	2. Amaryllidaceae 石蒜科
③	Flowers bilateral, twisted 180° during development. Petals 3, the median petal forming a lip. Stamens adnate to style and stigma, forming a column; pollen usually grouped into soft or hard masses (pollinia).	3. Cyperaceae 莎草科
④	Twining vines with thick rhizomes. Fruit usually a triangular and 3-winged, loculicidal capsule.	4. Poaceae 禾本科
⑤	Leaves 2-ranked. Spikelet composed of bracts (glumes 穎) and florets 小花. Florets 1 to numerous per spikelet, made up of a bract (the lemma 外稃) subtending a flower and another bract (the palea 內稃). Fruit a single-seeded caryopsis 穎果.	5. Typhaceae 香蒲科
⑥	Aromatic herbs. Flowers bilateral. Stamen 1, grooved, grasping the style.	6. Zingiberaceae 薑科
⑦	Aquatic. Sepals 3, distinct. Petals 3, distinct. Stamens usually 6 to numerous, filaments distinct. Carpels 6 to numerous, distinct. Fruit a cluster of achenes.	7. Liliaceae 百合科
⑧	Herbs with a bulb. Inflorescences appearing to be an umbel Tepals 6, distinct to connate, petaloid; a corona 副花冠 sometimes present. Carpels 3, connate; ovary inferior.	8. Orchidaceae 蘭科
⑨	Herbs, aquatic or wetland. Leaves 2-ranked. Inflorescences cylindrical spikes.	9. Dioscoreaceae 薯蕷科
⑩	Stems usually triangular. Leaves alternate, 3-ranked. Inflorescence a complex arrangement of small spikes (spikelets). Flowers each subtended by a bract (glume). Fruit an achene.	10. Araceae天南星科

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＊下列題目請在試卷內的「選擇題作答區」作答。

八、選擇題（20% ）

1. 下列何種果實不會發育自 syncarpous gynoecium？
(A) nut
(B) pome
(C) capsule
(D) follicle
(E) berry

2. 下列何人為在十九世紀時，整理全世界被子植物和裸子植物的屬之描述的學者：
(A) Andrea Caesalpino
(B) Carl Linnaeus
(C) Charles Darwin
(D) George Bentham
(E) Robert Thorne

3. 下列有關花的敘述何者正確？
(A) A perfect flower has at least the perianth and gynoecium present
(B) A connation of anthers means the anthers are fused together
(C) The stalk of an entire inflorescence is called pedicel
(D) A diurnal flower means it flowers every other day
(E) Dichogamy is the separation of anthers and stigmas within flowers

4. 下列何者為 androecium 的基本單位？
(A) carpel
(B) stamen
(C) anther
(D) petal
(E) ovule

5. 你所吃的蘋果是它的_____組織，我們通常不吃它的_____部份
(A) gametophytic, hypanthium
(B) ovary, pedicel
(C) mesocarp, pyrene
(D) reproductive, endocarp
(E) hypanthium, ovary

接背面

6. 下列何者為被子植物的特徵，而為裸子植物所無？
(A) pericarp
(B) vascular cambium
(C) cotyledons
(D) seeds
(E) microgametophyte

7. 形容詞 caducous 和 fugacious 指的是？
(A) levels of connation
(B) early loss
(C) placentation patterns
(D) pubescence
(E) gynoecium position

8. David 在早餐吃了一片酥烤蒜味麵包並喝了一杯香草咖啡(vanilla coffee)，試問下列何類植物並不在他的早餐中？
(A) Rubiaceae
(B) Poaceae
(C) Alliaceae
(D) Lamiaceae
(E) Orchidaceae

9. 蘭嶼雅美族人使用許多當地產的植物於他們的日常生活之中，下列那一種植物應不會被他們所利用？
(A) *Pometia pinnata* Forst. (番龍眼)
(B) *Asplenium nidus* L. (台灣山蘇花)
(C) *Calamus formosanus* Beccari (水藤)
(D) *Palaquium formosanum* Hayata (大葉山欖)
(E) *Trochodendron aralioides* Sieb. & Zucc. (昆欄樹)

10. 某公園想要種植一些台灣特有種的植物，下列何者不應列入選擇？
(A) *Chloranthus oldhami* Solms. (台灣及己)
(B) *Abies kawakamii* (Hayata) Tak. Ito (台灣冷杉)
(C) *Schisandra arisanensis* Hayata (阿里山五味子)
(D) *Astilbe longicarpa* (Hayata) Hayata (落新婦)
(E) *Salix warburgii* Seemen (水柳)

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＊下列題目請在試卷內的「非選擇題作答區」作答。

九、問答題（20%）

1. 假設在某一屬植物中發現了四種不同的花序型式：solitary flower，spikes，racemes，和 panicles。若已知這個屬的花序演化方向是由簡單轉為複雜的，試繪圖表示這個屬中花序的演化情形。（10 分）

2. 試描述下圖所示之花式圖（8 分），並舉出一個符合描述的植物科科名（2 分）

X, 5, (2+3), (9+1), 1