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मध्यप्रदेश लोक सेवा आयोग
रेसीडेन्सी एरिया
इन्दौर

क्रमांक : 452/69/2011/प-9

इन्दौर, दिनांक-06.10.2018

अंतिम उत्तर कुंजी

-:: विज्ञप्ति ::-

वैज्ञानिक अधिकारी परीक्षा-2015 विषय- वनस्पतिशास्त्र (फार्माकोग्नौसी) के संदर्भ में आयोग द्वारा जारी विज्ञप्ति क्रमांक 435/69/2011/प-9 दिनांक 23.09.2018 के अंतर्गत विषय- वनस्पतिशास्त्र (फार्माकोग्नौसी) प्रश्न पत्र की प्रावधिक उत्तर कुंजी आयोग की वेबसाइट पर प्रकाशित की गई थी। अभ्यर्थियों से प्राप्त ऑनलाईन आपत्तियों का विषय विशेषज्ञों द्वारा परीक्षण किया गया तथा समस्त ऑनलाईन आपत्तियों का सूक्ष्म परीक्षण करने के पश्चात विषय- वनस्पतिशास्त्र (फार्माकोग्नौसी) प्रश्न पत्र की अनुशंसित संशोधित अंतिम उत्तर कुंजी बनाई गई है। यह अंतिम उत्तर कुंजी है। इस अंतिम उत्तर कुंजी के आधार पर परीक्षा परिणाम तैयार किया जायेगा। अतः अब इस संबंध में अभ्यर्थियों की किसी प्रकार की आपत्तियों/अभ्यावेदनो पर विचार नहीं किया जायेगा। अभ्यर्थी आयोग की वेबसाइट पर अपना रोल नंबर एवं प्रवेश पत्र पर दिये गये पासवर्ड की सहायता से लॉग-इन कर अपनी रिस्पांस शीट का अवलोकन कर सकते हैं। यह विज्ञप्ति आयोग की वेबसाइट www.mppsc.nic.in, www.mppsc.com & www.mppscdemo.in पर दिनांक 06.10.2018 से उपलब्ध है।

(डॉ. पी.सी. यादव)
परीक्षा नियंत्रक

Scientific Officer Botany Exam - 2015

(Final Answer Key)

Botany

Q.No: 1	Rasaratnakar is a famous Ayurvedic text authored by:
A	Charaka
B	Shushruta
C	Nagarjuna
D	Agnivesha

Q.No: 2	Materia medica of unani system of medicine consists of the drugs of:
A	Vegetable origin
B	Animal origin
C	Mineral origin
D	Vegetable, animal & mineral origin

Q.No: 3	In the Chinese medicine, an opposite antagonistic and complimentary force to 'Yin' is _____
A	Yang
B	Qui
C	Jing
D	Shen

Q.No: 4	Which principles among the following is not associated with Homeopathy _____
A	Principle of simplex
B	Principle of minimum dose
C	Law of proving
D	Theory of four humours

Q.No: 5	A well known Ayurvedic preparation 'Triphala' contains the equal proportions of the three fruits:
A	Amla - Baheda - Vidonga
B	Baheda - Harra - Ajowan
C	Harra - Amla - Indrajava
D	Harra - Baheda - Amla

Q.No: 6	'Vajeekaranam' is a branch of treatment in Ayurvedic associated with -
A	Pediatric diseases
B	Infectious diseased

C	Diseases of genital organs
D	Diseases without known causes

Q.No: 7	'Shodhana' and 'Marana' are the two main stages of chemical and medical purification of:
A	Rasayana
B	Satva
C	Kshar
D	Bhasma

Q.No: 8	First Ayurvedic Pharmacopoeia of India (mono-monograph) was published in the year _____
A	1978
B	1989
C	1940
D	1964

Q.No: 9	In IR Spectrum 'Finger print' region is where many more bending vibrations of the molecule are found is:
A	Region 1430 to 910 cm⁻¹
B	Region 1750 to 1100 cm⁻¹
C	Region 3400 to 2800 cm⁻¹
D	Region 2800 to 1800 cm⁻¹

Q.No: 10	Column chromatography is based on the principle of:
A	Ion exchange
B	Exclusion
C	Gradient elution
D	Partition phenomena

Q.No: 11	Excessive consumption of liquorice leads to _____
A	Dryness in mouth
B	Sodium retention
C	Drowsiness
D	Anorexia nervosa

Q.No: 12	Size Exclusion chromatography is also known as _____
A	Ion exchange
B	Gel Filtration
C	Affinity
D	Partition

Q.No: 13	In fractional distillation, a mixture of liquid is separated based on their _____
A	Solubility
B	Boiling point
C	Density
D	Chemical composition

Q.No: 14	Normal-phase silica gel thin layer chromatography is based on _____
A	Distribution
B	Adsorption
C	Ion exchange
D	Thermal interaction

Q.No: 15	In thin layer chromatography Rf (retention factor) is defined as _____
A	The distance that a particular compound moves from the start
B	The distance between the start and the end of solvent front
C	The distance that a particular compound travels divided by the distance of the solvent front from the start
D	The distance travelled by the solvent front from the start divided by the distance that a particular compound moves

Q.No: 16	Thalleioquin's test is positive in case of _____
A	Kurchi bark
B	Cascara bark
C	Cinchona bark
D	Panama bark

Q.No: 17	_____ is not a common detector for gas chromatography.
A	Refractive index detector
B	Flame ionization detector
C	Thermal conductivity detector
D	Photoionisation detector

Q.No: 18	What is the average number of spores present in per mg of powdered lycopodium?
A	96,000
B	86,000
C	94,000
D	84,000

Q.No: 19	When stoma is accompanied by two subsidiary cells the long axis of which are at right
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	angles to that of the stoma. This type is known as:
A	Diacytic stomata
B	Anisocytic stomata
C	Paracytic stomata
D	Anomocytic stomata

Q.No: 20	_____ is the formula of stomatal index.
A	$\frac{S}{E} \times 100$
B	$\frac{E+S}{E} \times 100$
C	$\frac{E}{S} \times 100$
D	$\frac{S}{E+S} \times 100$

Q.No: 21	The outermost layer of the bark is known as:
A	Epidermis
B	Epicarp
C	Testa
D	Cork

Q.No: 22	Quill refers to:
A	Shape of leaf
B	Shape of dry fruit
C	Shape of root
D	Shape of bark

Q.No: 23	Phloroglucinol and Hydrochloric acid is used for staining:
A	Chitin
B	Suberin
C	Lignin
D	Cellulose

Q.No: 24	Saponification value is:
A	Number of milligrams of potassium hydroxide required to neutralize the fatty acids resulting from complete hydrolysis of one gram of fats or oil
B	Number of grams of potassium hydroxide required to neutralize the free acid and saponify the esters contained in one gram of fats or oil
C	Number of milligrams of potassium hydroxide required to neutralize the free acid and saponify the esters contained in one miligram of fats or oil
D	None of these

Q.No: 25	Alkaloids gives a reddish brown precipitive with:
A	Mayer's reagent
B	Wagner's reagent
C	Hager's reagent
D	Tannic acid solution

Q.No: 26	Which of the following is not a parameter for evaluation of herbal drugs by physical parameters?
A	Melting point
B	Total ash
C	Moisture content
D	Potency of the herbal drug

Q.No: 27	Haemolytic Index is used for identification of _____
A	Volatile oils
B	Saponins
C	Tannins
D	Resins

Q.No: 28	_____ of the following Rauwolfia species is found to be growing extensively in Africa.
A	Rauwolfia vomitoria
B	Rauwolfia serpentina
C	Rauwolfia canescens
D	Rauwolfia verticillata

Q.No: 29	Lignified trichomes are present in:
A	Dhatura
B	Rauwolfia
C	Nuxvomica
D	Coca

Q.No: 30	Which one of the following is water soluble ergot alkaloid?
A	Ergometrine
B	Ergotamine
C	Ergosine
D	Ergocryptine

Q.No: 31	Meconic acid is a chemical associated with:

A	Ipecac
B	Cinchona
C	Opium
D	Datura

Q.No: 32	'Deadly night shade' refers to:
A	Belladonna
B	Henbane
C	Digitalis
D	Sarpagandha

Q.No: 33	Conessine present in the kurchi bark is:
A	Tropane alkaloid
B	Indole alkaloid
C	Quinoline alkaloid
D	Steroidal alkaloid

Q.No: 34	Vitali-morin Reaction is specific to:
A	Tropane alkaloids
B	Quinoline alkaloids
C	Pyridine alkaloids
D	Purine bases

Q.No: 35	In umbelliferous fruits, the essential oil is deposited in:
A	Endosperm
B	Vittae
C	Vascular bundles
D	Parquetry layer

Q.No: 36	The halucinogenic effect of nutmeg is mainly due to:
A	Amphetamine
B	Myristicin & elemicin
C	Elemencin and pinene
D	Eugenol and methyleugenol

Q.No: 37	Vinblastine and Vincristine present in vinca are:
A	Dimeric bis-Indole
B	Quinoline-isoquinoline alkaloids
C	Peptide alkaloid
D	Steroidal glycoalkaloid

Q.No: 38	Mace found on seeds of <i>Myristica fragrans</i> is _____
A	Arillus
B	Strophiole
C	Caruncle
D	Awn

Q.No: 39	Myrobalan is common name for _____
A	Terminalia chebula
B	Terminalia arjuna
C	Terminalia cattapa
D	Terminalia belerica

Q.No: 40	Immature flowering bud of clove does not contain _____
A	Fibres
B	Stone cells
C	Starch grains
D	Oil glands

Q.No: 41	If trichomes are present on leaf surface, it called as _____
A	Smooth
B	Pubescent
C	Warty
D	Coriaceous

Q.No: 42	Alkaloids can be extracted from plants in salt form preferably by _____
A	Warming with organic solvents
B	Boiling with aqueous ammonium hydroxide
C	Shaking with acidified water at room temperature
D	Warming with lead acetate and water

Q.No: 43	Codeine is _____
A	Methyl Morphine
B	Acetyl Morphine
C	Dimethyl papaverine
D	Diethyl Morphine

Q.No: 44	Ergot is the _____ of the fungus <i>Claviceps purpurea</i> .
A	Vegetative form

B	Dried sclerotium
C	Ascospore
D	Conidiospore

Q.No: 45	_____ is characteristic of Rauwolfia vomitoria.
A	Reserpine
B	Quinidine
C	Cystisine
D	Physostigmine

Q.No: 46	The term St.Antony's fire is related to _____
A	The toxicity of ergot
B	The toxicity of morphine
C	Origin of ergot
D	The production of poppy

Q.No: 47	Alkaloids derived from ornithine are _____
A	Tropane alkaloids
B	Indole alkaloids
C	Quinoline alkaloids
D	Lupinane alkaloids

Q.No: 48	Strychnine is _____
A	Methoxy brucine
B	Demethoxy brucine
C	Hydroxy brucine
D	Dihydroxy brucine

Q.No: 49	Which of the following does not contain strychnine & brucine?
A	Strychnos nux vomica
B	Strychnos potatorum
C	Strychnos ignatii
D	Strychnos hainanensis

Q.No: 50	Proto alkaloids are also called as _____
A	Atypical alkaloids
B	Typical alkaloids
C	Biological amines
D	True alkaloids

Q.No: 51	Volatile oil is present in _____ in Mentha leaf.
A	Simple trichomes
B	Glandular trichomes
C	Spongy parenchyma
D	Volatile oil glands

Q.No: 52	The UV-visible region in the electromagnetic spectrum of radiation is:
A	200-460 nm
B	200-760 nm
C	460-760 nm
D	760-960 nm

Q.No: 53	The detection of steroidal drug used by athletes in International sports competitions by:
A	Gas-liquid chromatography
B	Column chromatography
C	Paper chromatography
D	Gel chromatography

Q.No: 54	The spectral range of far infra red spectroscopy is:
A	2000 - 4000 cm⁻¹
B	12500 - 4000 cm⁻¹
C	2000 - 200 cm⁻¹
D	200 - 10 cm⁻¹

Q.No: 55	Probiotics are:
A	Living microorganism
B	Enzyme
C	Derivatives of antibiotics
D	Precursor of antibiotics

Q.No: 56	Spirulina is a:
A	Yellow green algae
B	Blue green algae
C	Brown red algae
D	Red algae

Q.No: 57	Which one is the well known example of Prebiotics?
A	Diosgenin

B	Omega-3 fatty acid
C	Soya extract
D	Inulin

Q.No: 58	_____ drug used as immunomodulatory nutraceuticals.
A	Sarpagandha
B	Ashwagandha
C	Mentha
D	Liquorice

Q.No: 59	On exposure to air slow decomposition of oils and fats in keto acids, oxides & peroxides are known as:
A	Rancidity
B	Acidity
C	Peroxide value
D	Resinification

Q.No: 60	Which is the main group of Mycotoxins?
A	Rheotoxin
B	Aflatoxins
C	Fumotoxin
D	Taxitoxin

Q.No: 61	Column and gas chromatography is recommended as the principal method for the determination of:
A	Lead residues
B	Pesticide residues
C	Mercury residues
D	Arsenic residues

Q.No: 62	Endotoxins are found mainly in the outer membrane of certain type of:
A	Gram-negative bacteria
B	Gram-positive bacteria
C	Penicillium
D	Fusarium

Q.No: 63	Which of the following alkaloid is used in the treatment of glaucoma?
A	Pilocarpine
B	Vasicine
C	Strychrine
D	Reserpine

Q.No: 64	Which of the following crude drug is used as expectorant and bronchodilatory agent?
A	Datura
B	Rauwolfia
C	Vinca
D	Vasaka

Q.No: 65	Digoxin is the chemical constituent present in the leaves of:
A	Digitalis purpurea
B	Digitalis lanata
C	Digitalis thapsi
D	All of these

Q.No: 66	Alcoholic extract of podophyllum resin of Indian and American podophyllum treated with strong solution of copper acetate produces:
A	Brown precipitate and green colour respectively
B	Blue and green colour respectively
C	Green and yellow precipitate respectively
D	None of these

Q.No: 67	Standardized extract of curcumin consists of:
A	Curcumin, desmethoxycurcumin and bisdesmethoxy curcumin
B	Dicaffeoyl methane
C	Caffeoylferuloyl-methane
D	All of these

Q.No: 68	Pseudotannins can be distinguished from true tannins mainly by:
A	Goldbeater's skin test
B	Test for chlorogenic acid
C	Catechin test
D	Phenazone test

Q.No: 69	A Sweet constituent of liquorice root is a:
A	Sodium and potassium salt of glycyrrhetic acid
B	Potassium and calcium salt of glycyrrhetic acid
C	Potassium and calcium salt of glycyrrhizinic acid
D	Sodium and potassium salt of glycyrrhizinic acid

Q.No: 70	Cardioactive glycosides with five and six membered lactone ring in the steroidal skeleton are:
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A	Cardinolides and scillaremin respectively
B	Digitoxigenin and scillaremin respectively
C	Cardinolides and bufanolides respectively
D	Digitoxigenin and bufanolides respectively

Q.No: 71	Filter dipped in alcoholic extract of rhubarb and examined under uv light produces blue fluorescence. The type of Rhubarb is:
A	English Rhubarb
B	Japanese Rhubarb
C	Rhapontic Rhubarb
D	Indian Rhubarb

Q.No: 72	Dog senna is:
A	Cassia burmanni
B	Cassia auriculata
C	Cassia Montana
D	Cassia obovata

Q.No: 73	Indian Liquorice is:
A	Glycyrrhiza uralensis
B	Abrus precatorius
C	Periandra dulcis
D	Trifolium alpinum

Q.No: 74	Podophyllum resin or podophyllin is used for the:
A	Treatment of jaundice
B	Treatment of hypersensitivity reactions
C	Treatment of vaneral diseases and warts
D	Treatmen of duodenal ulcers

Q.No: 75	Cascarosides are _____
A	Anthraquinone aglycone
B	O-glycoside
C	C-glycoside
D	O and C-glycosides

Q.No: 76	Paper impregnated with turmeric extract is used for identification of _____
A	Protocatechuic acid
B	Ferulic acid
C	Gallic acid

D	Boric acid
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Q.No: 77	Senega has like odour that of _____
A	Fish oil
B	Vanillin
C	Limonene
D	Methyl salicylate

Q.No: 78	Red squill is used as _____
A	Rodenticide
B	Expectorant
C	Fish poison
D	Diuretic

Q.No: 79	Pungency of ginger is destroyed by boiling 2% solution of _____
A	Sodium carbonate
B	Hydrochloric acid
C	Potassium hydroxide
D	Acetic acid

Q.No: 80	Panaxosides are active principles of _____
A	Opium
B	Ginseng
C	Colchicum
D	Withania

Q.No: 81	Aflatoxins B1 has _____ moiety.
A	Coumarins
B	Flavanoids
C	Alkaloid
D	Napthaquinone

Q.No: 82	Amla is the source of vitamin _____
A	Vitamin D
B	Vitamin A
C	Vitamin B
D	Vitamin C

Q.No: 83	Adulteration in honey with invert sugar can be detected by _____

A	Molisch's test
B	Benedict's test
C	Fiehe's test
D	Seliwanoff's test

Q.No: 84	Garlic contains _____ antibacterial substance.
A	Allin
B	Allicin
C	Proline
D	Leucine

Q.No: 85	Which of the following commercial varieties of opium is also known as druggists opium?
A	Indain opium
B	Persian opium
C	Chinese opium
D	Turkish opium

Q.No: 86	Adultration with exhausted drugs is frequently practiced with:
A	Rhubarb
B	Cinchona
C	Senna
D	Clove

Q.No: 87	Which of the following extraction methods does not use heat energy?
A	Digestion
B	Maceration
C	Soxhlet extraction
D	None of these

Q.No: 88	'Arjunarishta' is an ayurvedic preparation used for treatment of heart diseases is prepared from:
A	The bark of Terminalia arjuna
B	Leaves of Terminalia arjuna
C	Dry fruits of Terminalia arjuna
D	Heart wood of Terminalia arjuna

Q.No: 89	Ayurvedic dosage form Lehya (Avleha) is _____
A	Semisolids in nature
B	Liquid in nature
C	Tablets

D	Powders
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Q.No: 90	Stass-Otto process refers to a:
A	Chemical test
B	Extraction method
C	Process of adulteration
D	Quality control method

Q.No: 91	Which branch of spectroscopy deals with the absorption of radio-frequency radiation by substances held in a magnetic field:
A	Mass Spectroscopy
B	IR Spectroscopy
C	UV-visible Spectroscopy
D	NMR Spectroscopy

Q.No: 92	Continuous cold percolation is better known as:
A	Soxhlet extraction
B	Digestion
C	Infusion
D	Super critical fluid extraction

Q.No: 93	Counter current distribution is:
A	Solid liquid extraction
B	Gas liquid extraction
C	Liquid liquid extraction
D	None of these

Q.No: 94	In the Supercritical fluid extraction (SFE) the Ideal supercritical fluid is _____
A	Ethanol
B	Liquid NO₂
C	PEG
D	Liquid CO₂

Q.No: 95	Retention time is applicable to:
A	HPTLC
B	HPLC
C	GC
D	HPLC & GC

Q.No: 96	In Silica gel 60F 254 HPTLC Plates. "F" indicates:
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A	Presence of flurescence indicator
B	Presence of adhesive as binder
C	Presence of homogenous silica
D	Presence of flavonoid indicator

Q.No: 97	The reciprocal of the thickness (1 cm) required to reduce the light to 1/10 th of its intensity based on Lambarts law is known as:
A	Absorption coefficient
B	Transmission coefficient
C	Molar absorption coefficient
D	Extinction coefficient

Q.No: 98	In ayurvedic pharmacy which preparation is used for eye disease:
A	Netra bindu & anjana
B	Pisti
C	Dravaka
D	Sattva

Q.No: 99	In preparation of Asava & Arista fumigation of wooden pots can be done by:
A	Pippali churna
B	Triphala churna
C	Sudarshan churna
D	Trilopha churna

Q.No: 100	The most commonly used liver toxic agent in hepatoprotective activity of crude drugs in rats is:
A	Streptozotocin
B	Carbon tetrachloride
C	Silimarin
D	Carrageenan