

FINAL ANSWER KEY

Question Paper Code:	62/2018/OL
Category Code:	020/2018
Exam:	Asst Professor in Radiotherapy
Medium of Question:	English
Date of Test	06-12-2018
Department	Medical Education
Alphacode	A

Question1:-The Chilika Lake lies in the state of

- A:-Gujarat
- B:-Jammu and Kashmir
- C:-Rajasthan
- D:-Orissa

Correct Answer:- Option-D

Question2:-The Tropic of Cancer does not pass through

- A:-Orissa
- B:-Rajasthan
- C:-Chhattisgarh
- D:-Tripura

Correct Answer:- Option-A

Question3:-The Pastern most longitude of India is

- A:-68°7'E
- B:-77°6'E
- C:-82°32'E
- D:-97°25'E

Correct Answer:- Option-A

Question4:-Uttarakhand, Uttarpradesh, Bihar, West Bengal and Skikkim have Common frontiers with

- A:-Nepal
- B:-China
- C:-Bhutan
- D:-Myanmar

Correct Answer:- Option-A

Question5:-The height of the mountain peak Nanda devi is _____ metre.

- A:-8598
- B:-7817
- C:-8172
- D:-7756

Correct Answer:- Option-B

Question6:-Which five year plan introduced IRDP and NREP ?

- A:- 7th
- B:- 6th
- C:- 5th
- D:- 4th

Correct Answer:- Option-B

Question7:-The book "Planned Economy for India" was written by

- A:-P. C. Mahalanobis
- B:-Dr. K. M. Raj
- C:-M. Visveswaraya
- D:-Dr. Manmohan Singh

Correct Answer:- Option-C

Question8:-The Foreign Exchange Regulation Act (FERA) was enacted in the year

- A:-1969
- B:-1970
- C:-1973
- D:-1971

Correct Answer:- Option-C

Question9:-Who presented the first budget in Kerala Assembly ?

- A:-P. K. Kunju
- B:-C. Achutha Menon
- C:-R. Sankar
- D:-K. R. Gauri

Correct Answer:- Option-B

Question10:-Anamudi, the highest Peak in Kerala is in _____ Taluk.

- A:-Munnar
- B:-Peerumed
- C:-Devikulam
- D:-Chittoor

Correct Answer:- Option-C

Question11:-Who wrote the book "Jathinirayam" ?

- A:-Chattampi Swamikal
- B:-Sree Narayana Guru
- C:-Ayya Vaikundar
- D:-Kumaran Asan

Correct Answer:- Option-B

Question12:-Who is the propagator of the idea, "Anandajati" ?

- A:-Ayyankali
- B:-Vagbhatananda
- C:-Brahmananda Sivayogi
- D:-Pandit Karuppan

Correct Answer:- Option-C

Question13:-Who translated the "Atmopadesa Sathakam" of Sree Narayana Guru to English language ?

- A:-Dr. Palpu
- B:-Kumaranasam
- C:-Thycand Ayya
- D:-Nataraja Guru

Correct Answer:- Option-D

Question14:-c. Kesavan made the Kozhencherry speech in the year

- A:-1932
- B:-1933
- C:-1935
- D:-1936

Correct Answer:- Option-C

Question15:-"Chithralekha" is written by

- A:-Pandit Karuppan
- B:-Kumara Asam
- C:-Thycaud Ayya
- D:-Vagbhatananda

Correct Answer:- Option-A

Question16:-The cleanest city in India, by the Survey of 2018

- A:-Bhopal
- B:-Chandigarh
- C:-Lucknow
- D:-Indore

Correct Answer:- Option-D

Question17:-Who won the Orange Cap for leading run scorer of the IPL Tournament 2018 ?

- A:-Kane Williamson
- B:-Virat Kohli
- C:-Rishabh Pant
- D:-A B devilliers

Correct Answer:- Option-A

Question18:-Which bank was the first to introduce ATMs to the world ?

- A:-Hong Kong Bank
- B:-Standard Chartered Bank
- C:-Citi Bank
- D:-Bank of America

Correct Answer:- Option-C

Question19:-The `105^(th)` Indian Science Congress was held in 2018 at

- A:-Bhuvaneswar
- B:-Bangaluru
- C:-Bhopal
- D:-Imphal

Correct Answer:- Option-D

Question20:-The winner of J. C. Danil Award 2017

- A:-Adoor Gopalakrishnan
- B:-Sree Kumaran Thanpi
- C:-M. K. Arjunam
- D:-K. G. George

Correct Answer:- Option-B

Question21:-A nucleus remains stable as Z(proton number) increases when

- A:-no. of neutrons > no. of protons
- B:-no. of protons > no. of neutrons
- C:-no. of protons = no. of neutrons
- D:-none of the above

Correct Answer:- Option-A

Question22:-In `90_(Sr)-`90_(Y)` beta ray applicator, the parent and daughter nuclei are in

- A:-Transient equilibrium
- B:-Secular equilibrium
- C:-Relative equilibrium
- D:-Not in equilibrium

Correct Answer:- Option-B

Question23:-Compton interaction depends up on

- A:-Photon energy and electron density of the medium
- B:-Z and the electron density of the medium
- C:-Photon energy and Z of the medium
- D:-Z and free electron energy level of the medium

Correct Answer:- Option-A

Question24:-In build up region for high energy photon beams

- A:-Energy transferred increases
- B:-Energy absorbed increases
- C:-Energy absorbed decreases
- D:-Energy transferred is equal to energy absorbed

Correct Answer:- Option-B

Question25:-The calculation parameters which we used for the SSD set up treatments are

- A:-PDD and the dose rate in air at Isocentre
- B:-TMR and the dose rate in air at Isocentre
- C:-PDD and the dose rate in water at `d_(max)`
- D:-TMR and dose rate in water at `d_(max)`

Correct Answer:- Option-C

Question26:-The unit of integral dose is

- A:-Joule/Kg
- B:-Coulomb/Kg
- C:-Joule Kg
- D:-Joule

Correct Answer:- Option-D

Question27:-Radiation Field size is defined as the

- A:-Lateral distance between the collimator opening
- B:-Lateral distance between the optical field edges
- C:-Lateral distance between the 90% Isodose line at reference depth
- D:-Lateral distance between 50% Isodose line at reference depth

Correct Answer:- Option-D

Question28:-Radiation weighting factor is same for

- A:-Photons and electrons
- B:-Neutrons and photons
- C:-Thermal neutrons and protons
- D:-None of the above

Correct Answer:- Option-A

Question29:-Using TLD personal monitoring system we can detect

- A:-Only photons
- B:-Only electrons
- C:-Photons and electrons
- D:-Photons, electrons and neutrons

Correct Answer:- Option-C

Question30:-The filters used with Mega Voltage x-rays is for

- A:-Removing unwanted soft X rays
- B:-Making the intensity uniform across the beam
- C:-Removing the horns across the beam
- D:-All of the above

Correct Answer:- Option-B

Question31:-"Involvement of two or more lymph node regions on both sides of the diaphragm with involvement of spleen and extra lymphatic organ" in Ann Arbor staging classification for Hodgkins disease is

- A:-III
- B:-III S
- C:-III E
- D:-III SE

Correct Answer:- Option-D

Question32:-The therapeutic ratio of a given regimen is the ratio of

- A:-Percentage tumor control with therapy/Percentage complication with therapy
- B:-Percentage complication with therapy/Percentage tumor control with therapy
- C:-Percentage normal tissue damage/Percentage tumor tissue damage
- D:-None of the above

Correct Answer:- Option-A

Question33:-Beckwith Wiedemann Syndrome is associated with Wilm' stumor in

- A:-13%
- B:-5%
- C:-9%
- D:-1%

Correct Answer:- Option-B

Question34:-5 year survival rate of inflammatory breast cancer after multidisciplinary management

- A:-20%
- B:-25%
- C:-30%
- D:-40%

Correct Answer:- Option-D

Question35:-All the following included in electromagnetic spectrum except

- A:-Visible light
- B:-Gamma-rays
- C:-Beta rays
- D:-X-rays

Correct Answer:- Option-C

Question36:-Risk of relapse of stage I seminoma after high inguinal radical orchidectomy is

- A:-10%
- B:-20%
- C:-30%
- D:-40%

Correct Answer:- Option-B

Question37:-What is the dose limit for whole body of a radiation worker ?

- A:-1 mSv/year
- B:-10 mSv/year
- C:-20 mSv/year
- D:-30 mSv/year

Correct Answer:- Option-C

Question38:-Which of the following gene(s) is/are associated with hereditary breast cancer ?

- A:-BRCA1/BRCA2
- B:-CHECK2

C:-PALB2

D:-All of the above

Correct Answer:- Option-D

Question39:-Nobel prize for the discovery of cell cycle was received by all except

A:-H. Hartwell

B:-Timothy Hunt

C:-Zetterberg

D:-Paul M. Nurse

Correct Answer:- Option-C

Question40:-Gamma ray energy related to cobalt 60 radiotope

A:-1.25 MeV

B:-1.17 MeV

C:-1.33 MeV

D:-All of the above

Correct Answer:- Option-D

Question41:-Which of the following statements regarding lobular carcinoma in situ (LCIS) is wrong ?

A:-LCIS cells are commonly ER negative

B:-LCIS has been reported to present with a multi centric distribution in upto 90% of the mastectomy specimen

C:-Loss of E cadherin is often observed

D:-Represents <15% of all noninvasive breast cancer

Correct Answer:- Option-A

Question42:-Type of asbestosfibers with highest risk of malignant pleural mesothelioma

A:-Chrysotile

B:-Amphibole

C:-Cribriform

D:-Cruciate

Correct Answer:- Option-B

Question43:-Normal tissue tolerance dose of heart with conventional fractionation radiation treatment is

A:-No more than 1/3 of heart volume to receive 20 Gy

B:-No more then 1/3 of heart volume to receive 40 Gy

C:-No more than 1/3 of heart volume to receive 60 Gy

D:-No more than 1/3 of heart volume to receive 80 Gy

Correct Answer:- Option-C

Question44:-Most common origin for cardiac metastasis is

A:-Upper gastro intestinal tract

B:-Breast

C:-Lung

D:-Melanoma

Correct Answer:- Option-C

Question45:-The risk of breast cancer in a woman whose second degree relative has breast cancer is

A:-1.5%

B:-5%

C:-10%

D:-3%

Correct Answer:- Option-A

Question46:-Bite block (intraoral device) is used in the radiation treatment of carcinoma tongue to

A:-Replace air and give uniform dose distribution

B:-Reduce radiation toxicity to buccal mucosa and hard palate

C:-Immobilization of tongue

D:-All of the above

Correct Answer:- Option-D

Question47:-Standard dose of definitive radiation therapy for esophageal cancer is

A:-45 to 50 Gy at conventional fractionation schedule

B:-50 to 50.4v Gy at conventional fractionation schedule

C:-60 to 64.8 Gy at conventional fractionation schedule

D:-55 to 60.4 Gy at conventional fractionation schedule

Correct Answer:- Option-B

Question48:-Prophylactic cranial irradiation indicated in

A:-CML

- B:-Esthesioneuroblastoma
 - C:-Small cell lung carcinoma
 - D:-All of the above
- Correct Answer:- Option-C

Question49:-Cranial nerve least affected in carcinoma nasopharynx is

- A:-I
- B:-III
- C:-V
- D:-VII

Correct Answer:- Option-A

Question50:-Mechanism of chemotherapy induced radiation sensitivity of taxanes

- A:-Cellular arrest in G2M phase of the cell cycle
- B:-Induction of apoptosis
- C:-Reoxygenation of tumor cells
- D:-All of the above

Correct Answer:- Option-D

Question51:-Which of the following normal tissue constraints is wrong ?

- A:-Optic nerve - Maximum < 55 Gy
- B:-Optic chiasm - Maximum < 55 Gy
- C:-Brain stem - Maximum < 45 Gy
- D:-Spinal cord - Maximum < 45 Gy

Correct Answer:- Option-C

Question52:-Cervicallymphadenopathy is present in upto _____ % of patients with carcinoma nasopharynx.

- A:-57
- B:-67
- C:-77
- D:-87

Correct Answer:- Option-D

Question53:-Half-life of iodine -131 is

- A:-24 Hours
- B:-8 Days
- C:-72 Hours
- D:-5.26 Years

Correct Answer:- Option-B

Question54:-Which of the following is correct ?

- A:-LDR range of 1-2 Gy/hour
- B:-MDR range of 2-12 Gy/minute
- C:-HDR over 12000 cGy/hour
- D:-None of the above

Correct Answer:- Option-D

Question55:-Median lethal dose of whole body radiation expressed as a single fraction is approximately

- A:-4 Gy
- B:-8 Gy
- C:-15 Gy
- D:-20 Gy

Correct Answer:- Option-A

Question56:-Which of the following regarding "hot spot" is correct (ICRU report 62) ?

- A:-Volume outside PTV that receives dose>100% of specified PTV dose at least 2cm^3 in a section
- B:-High dose to RVR (Remaining Volume at Risk)
- C:-Volume outside PTV that receives dose>100% of specified PTV dose, 15mm diameter
- D:-Area outside target that receives dose>100% of specified target dose, at least 2cm^3 in a section

Correct Answer:- Option-C

Question57:-PDD (Percentage Death Dose) of gamma rays of Cobalt 60 at 10 cm depth is (SSD=80 cm)

- A:-45%
- B:-55%
- C:-65%
- D:-75%

Correct Answer:- Option-B

Question58:-FDA approved antiangiogenic drug Regorafenib improves overall survival in chemo refractory metastatic colorectal cancer is

- A:-1.4 months
- B:-4.7 months
- C:-6.2 months
- D:-8.1 months

Correct Answer:- Option-A

Question59:-Which of the following is not a Hallmark of cancer ?

- A:-Self-sufficiency in growth signals
- B:-Sensitivity to anti-growth signals
- C:-Resistance to Apoptosis
- D:-Limitless replicative potential

Correct Answer:- Option-B

Question60:-Which is wrong regarding hyper fractionation ?

- A:-Smaller than standard doses/fraction
- B:-Treating once a day for 6 or 7 days/week
- C:-Usually gives two fractions/day for five days/week
- D:-Overall treatment time prolonged

Correct Answer:- Option-D

Question61:-Van Nuys Prognostic Index for ductal carcinoma in (breast) considers following features except

- A:-Lesion size
- B:-Perivascular invasion
- C:-Margins
- D:-Histology

Correct Answer:- Option-B

Question62:-Positive immunohistochemistry staining for calcitonin in medullary carcinoma thyroid has sensitivity range of _____ in cytology specimen

- A:-95-100%
- B:-75-80%
- C:-65-70%
- D:-55-60%

Correct Answer:- Option-D

Question63:-For detecting Minimal residual disease following complete clinical remission in leukemia, which test technique helps in decreasing false positives

- A:-Polymerase Chain Reaction (PCR)
- B:-Reverse transcriptase PCR
- C:-Real time PCR
- D:-Florescent In situ Hybridization

Correct Answer:- Option-C

Question64:-Which chromosomal translocation in ALL have favorable prognosis ?

- A:-t(12;21) (p12;q22)
- B:-t(9;22) (q34;q11)
- C:-t(1;19) (q23;p13)
- D:-t(4;11) (q21;q23)

Correct Answer:- Option-A

Question65:-The following gene expression profiles in Diffuse Large B cell Lymphoma shows poor prognosis except

- A:-Bcl-2 expression
- B:-Bcl-1 expression
- C:-HLA-DR expression
- D:-P53 gene mutation

Correct Answer:- Option-B

Question66:-True regarding flow cytometry in cancer diagnosis include

- A:-Prompt result availability
- B:-Need for fresh specimen
- C:-Can analyze two or more markers simultaneously
- D:-All of the above

Correct Answer:- Option-D

Question67:-T4N2M1 (ipsilateral) carcinoma lung comes under which composite stage ?

- A:-Stage IIB
- B:-Stage IIIA

C:-Stage IIIB

D:-Stage IV

Correct Answer:- Option-C

Question68:-As per NCCN guidelines 2018, FIGO stage IA of epithelial ovarian cancer patients in whom fertility needs to be preserved is treated by

A:-Bilateral salpingo-oophorectomy

B:-Unilateral salpingo-oophorectomy

C:-Total Abdominal Hysterectomy with bilateral salpingo-oophorectomy and comprehensive staging

D:-Unilateral salpingo-oophorectomy with comprehensive staging

Correct Answer:- Option-D

Question69:-PET scan is considered "essential" in following initial tumor workup as per NCCN guidelines except

A:-Non-Hodgkins Lymphoma-Chronic Lymphocytic Leukemia

B:-Hodgkins disease

C:-Non-Hodgkins Lymphoma-Follicular Lymphoma

D:-Non-Hodgkins Lymphoma-Gastric MALT lymphoma

Correct Answer:- Option-A

Question70:-FIGO staging workup for carcinoma cervix include

A:-CT scan abdomen

B:-MRI Scan abdomen

C:-USG abdomen

D:-None of the above

Correct Answer:- Option-C

Question71:-Indication/s of Radiotherapy in sigmoid or caecal primary carcinoma include all except

A:-Close or positive resection margin

B:-All T2-T3 diseases

C:-T4 disease with pelvic adherence

D:-Both A) and C)

Correct Answer:- Option-B

Question72:-Regarding results of German Trial in treatment of cancer Rectum, pre operative chemo radiotherapy showed following results compared to post operative chemo radiotherapy

A:-Improved 5 year survival rate

B:-Decreased chronic toxicity rate

C:-Poor sphincter preservation rate

D:-Increased acute toxicity rate

Correct Answer:- Option-B

Question73:-WPRT (Whole Prostate Radiotherapy) is indicated in all except

A:-Lymph node involvement as per radiological investigation

B:-Risk of lymph node involvement $\geq 15\%$

C:-Gleasons score of 7 and more than 50% biopsy positive

D:-None of above

Correct Answer:- Option-A

Question74:-Total Low Dose Rate brachytherapy dose commonly used in carcinoma cervix treatment after external beam radiotherapy of 45Gy is _____Gy

A:-30 Gy

B:-35 Gy

C:-40 Gy

D:-45 Gy

Correct Answer:- Option-C

Question75:-A 15 year old boy with swelling tibial shaft complaints of local pain and fever. Histopathology shows small round cells. Most likely diagnoses is

A:-Osteochondroma

B:-Giant cell carcinoma

C:-Osteosarcoma

D:-Ewings sarcoma

Correct Answer:- Option-D

Question76:-A patient is receiving Cytarabine, Daunorubicin and Etoposide as part of induction therapy for Leukemia.ECG shows peaked T wave with ST depression. Child's heart rate is 70/minute (<20% from base line heart rate). Serum potassium of 7.4 mEq/L. Clinical should initiate measures to manage

A:-Tumor Lyses Syndrome

B:-Hyperkalemia

C:-Hyper leukocytosis

D:-Syndrome of Insufficient ADH secretion

Correct Answer:- Option-A

Question77:-In Breast Reconstruction Surgery after mastectomy, which of the following is not true regarding TRAM flap.

A:-Flap may be based on a pedicled Superior Epigastric artery

B:-It is a type of myo cutaneous flap

C:-The flap can be transferred as a free flap

D:-It uses supra umbilical fat

Correct Answer:- Option-D

Question78:-As per NSABP B-18 trial, ____ % of patients who had a planned mastectomy were able to undergo breast conservation therapy following neo adjuvant chemotherapy.

A:-5%

B:-9%

C:-13%

D:-17%

Correct Answer:- Option-B

Question79:-The prescribed dose in Carcinoma Nasopharynx radiation planning is _____ to PTV of Clinical Target Volume (CTV) gross and _____ to PTV of CTV high risk subclinical disease.

A:-70 Gy, 59.4 Gy

B:-64 Gy, 59.4 Gy

C:-59.4 Gy, 54 Gy

D:-54 Gy, 59.4 Gy

Correct Answer:- Option-A

Question80:-Radio Surgery for focally recurrent Glioblastoma Multiforme has resulted in median survival of

A:-3 to 5 months

B:-5 to 8 months

C:-8 to 10 months

D:-12 to 18 months

Correct Answer:- Option-C

Question81:-People friendly health care delivery system is the concept of

A:-Mission LIFE

B:-Mission Aardram

C:-Education mission

D:-Haritha Keralam

Correct Answer:- Option-B

Question82:-Historically the first chemotherapeutic drugs used in the clinical setting were

A:-Anthracyclines

B:-Antimetabolites

C:-Alkylating agents

D:-None

Correct Answer:- Option-C

Question83:-Adverse effects of oral morphine includes all EXCEPT

A:-Respiratory depression

B:-Nausea and vomiting

C:-Sedation

D:-Constipation

Correct Answer:- Option-A

Question84:-The vitamin used to reduce the severity of hand foot syndrome of 5-fluoro uracil

A:-B12

B:-B2

C:-C

D:-B6

Correct Answer:- Option-D

Question85:-NOT true about tamoxifen flare

A:-Occurs in approximately 30% of cases with metastatic disease

B:-It develops in the first few weeks of therapy

C:-Full dose of tamoxifen should be continued

D:-Occasionally associated with hypercalcemia

Correct Answer:- Option-A

Question86:-A measure of central tendency

- A:-Range
- B:-Standard deviation
- C:-Mode
- D:-None

Correct Answer:- Option-C

Question87:-The dominant means of energy production in cancer cells

- A:-Gluconeogenesis
- B:-Glycolysis
- C:-Lactic acidosis
- D:-None

Correct Answer:- Option-B

Question88:-A radiotherapy emergency

- A:-Superior venacava obstruction
- B:-Severe bone pain
- C:-Spinal cord compression
- D:-Brain metastasis

Correct Answer:- Option-C

Question89:-The time interval between end of treatment and PET imaging after concurrent chemoradiation should be at least

- A:-6-8 weeks
- B:-10-12 weeks
- C:-2-3 weeks
- D:-24-36 weeks

Correct Answer:- Option-B

Question90:-For all the following analytical studies, the individual is the unit of analysis EXCEPT

- A:-Ecological
- B:-Cross sectional
- C:-Cohort
- D:-Case control

Correct Answer:- Option-A

Question91:-Prophylactic surgery can prevent cancer in

- A:-Ulcerative colitis
- B:-Multiple endocrine neoplasia
- C:-Both A) and B)
- D:-None

Correct Answer:- Option-C

Question92:-NOT true about mesna

- A:-Its a synthetic sulfhydryl compound
- B:-May cause false positive results for ketones
- C:-The usual dose is 80% of the daily mg ifosfamide dose
- D:-May not prevent hemorrhagic cystitis in all patients

Correct Answer:- Option-C

Question93:-All are elements of communicating bad news-the SPIKE approach EXCEPT

- A:-Intimacy
- B:-Perception and preparation
- C:-Knowledge of the condition
- D:-Empathy and exploration

Correct Answer:- Option-A

Question94:-All are adverse effects of cisplatin EXCEPT

- A:-Neuropathy
- B:-Ototoxicity
- C:-Nephrotoxicity
- D:-Hypercalcemia

Correct Answer:- Option-D

Question95:-The APL group will get the benefit of karunya benevolent fund if their annual income is below

- A:-5 lakhs
- B:-3 lakhs
- C:-1 lakhs

D:-4 lakhs

Correct Answer:- Option-B

Question96:-When a patient completes his/her age 18 years after commencement of treatment, further assistance under cancer suraksha scheme will be extended for a maximum period of

A:-5 years

B:-3 years

C:-2 years

D:-None

Correct Answer:- Option-D

Question97:-About Nivolumab TRUE

A:-Anticytotoxic T lymphocyte associated protein 4 (CTLA4) inhibitor

B:-Programmed cell death 1 (PD-1) inhibitor

C:-mTOR kinase inhibitor

D:-None

Correct Answer:- Option-B

Question98:-Alemtuzumab targets

A:-CD 33 antigen

B:-CD 20 antigen

C:-CD 52 antigen

D:-Epidermal growth factor

Correct Answer:- Option-C

Question99:-NOT true of phase III trials

A:-The primary endpoints should be demonstrably related to patient benefit

B:-Eligibility criteria should be broad to enhance generalizability of results

C:-Conditions of treatment should be suited to community patient care

D:-A quality of life measure should be included to measure benefit to patients

Correct Answer:- Option-D

Question100:-Patient reported outcomes are important endpoint in oncology research because

A:-Cancer treatments often have a large impact on overall survival

B:-Cancer treatment decisions are often straight forward

C:-Cancer treatments that are curative need to be advanced

D:-Cancer treatments often have significant toxicity

Correct Answer:- Option-D